Modern packaging

Nominated for *Packaging's Hall of Fame*. Story on Page 86

February 1951

THE HAND OF A Satisfied Customer

This housewife's manicure is still okay.
—and her goodwill is intact.

SOFT SEAL — a new National case sealing glue permits her to open *home delivered* corrugated cases without tugging, straining or nail breaking.

SOFT SEAL allows carton flaps to be lifted with ease. Yet, its bond will not permit flaps to pop open during handling.

We'd like to seal one of your cases with **SOFT SEAL**; one with your present glue. Then have you open both.

National ADHESIVES

270 Madison Avenue, NEW YORK 16; 3641 So. Washtenaw Ave., CHICAGO 32; 735 Battery St., SAN FRANCISCO 11; and other principal cities. In CANADA: National Adhesives (Canada) Ltd., TORONTO and MONTREAL. In ENGLAND: National Adhesives Ltd., SLOUGH.

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For FOIL that FOILS package troubles

...coat with VINYLITE BRAND RESINS

Want to seal quickly—easily? Want to prevent transfer of flavor? Want to keep odors out, freshness in? You can depend on aluminum foil coated with VINYLITE Brand Resins to achieve these goals – and many more!

Heat-sealing, for example! Speedy and certain heat-sealing of foil packages coated with VINYLITE Resins combines utmost airtightness with top dependability, eliminating costly steps.

Color, for example. Available in every conceivable color, transparent or translucent, these resins can be applied over printing to enhance the beauty and luster of your design.

These are just a few of the advantages that these resins are bringing progressive package designers for packing foods and materials of many kinds. Besides heat-sealability, color, printability, and freedom from odor or flavor transfer, the properties include strong resistance to water, moisture absorption, oils, greases, alkalies, and most strong acids. They are odorless, too, and tasteless.

Whatever the material—foil, paper, metal, cloth—there's a coating based on VINYLITE Brand Resins formulated to assure all-star performance for your packages and containers. Find out more about them today. For complete information, write to Dept. JW-55.

Data courtesy Shellmar Products Corp.
Mount Vernon, Ohio

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TRADE MARK

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Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

Modern packaging

Vol. 24 No. 6 February 1951

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WHEN SEVERAL ACCESSORY ITEMS must be cartoned in addition to the product container itself, labor and overhead costs can run riot in a hand operation. For Endo Products, Inc., of Richmond Hill, N.Y., a REDINGTON installation has put packaging costs down where they belong, besides assuring consistent freedom from mispackaging.

A specially adapted REDINGTON Type 23 gives straight-line, fully automatic handling of all components of VIFORT packages. The machine transfers a bottle from the intake belt and lays it down in a conveyor pocket. It then feeds, from an adjustable hopper, a spiral-tube-enclosed dropper into position next to the bottle. A magazine-fed flat circular is then triple-folded lengthwise and positioned across tops and down the sides of bottle and dropper tube.

As each loaded pocket passes in front of the carton magazine, the machine feeds a collapsed carton, forms it, and inserts the bottle-dropper-circular assembly; then tucks in the end flaps to close the package. A skip-carton mechanism prevents feeding a carton should an empty pocket reach the loading station.

Any of three package sizes, with circular and dropper for each, may be handled by simple, quick adjustments. The REDINGTON thus permits Endo to package a relatively complex assembly, in a range of sizes, efficiently, fast and economically. *And, of course, famous REDINGTON construction features—among them, one-piece cast iron frame, self-aligning roller bearings, ground and polished shafting—assure continuous trouble-free performance, long and satisfactory service-life.*

Bring Us Your Problem

Whether it is simple or complex, routine or unique, large or small output, 54 years of REDINGTON experience with packaging in many fields can help you. Our skilled engineers will be glad to give practical advice, estimates — write us today.

F.B. REDINGTON CO. *~since 1897~*

AUTOMATIC MACHINES for CARTONING WRAPPING SPECIAL PACKAGING

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Modern packaging

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EDITORIAL

The indispensable man

FEW PEOPLE OUTSIDE the packaging field realize how technical it has become. The average consumer, if he thinks about packaging at all, is apt to think of it primarily as a matter of "dressing up" the product with an artist's creation of pictures and pretty colors. The highly technical questions of materials, construction and product protection are seldom considered.

Yet every packager knows that without the scientists and technicians who develop, produce and test his packages and package materials our whole economy eventually would collapse and our armies in the field would face starvation for lack of supplies. The situation is particularly critical in a mobilization economy when scientific ingenuity is strained to the utmost to devise substitute packaging that will keep civilian and military supply lines running.

The question is: Do the authorities in Washington realize this? We doubt it. They didn't realize it last time—and the irresponsible drafting of scientific personnel was later recognized as one of our serious errors.

Adhesives provide a case in point. Without the proper adhesive almost any package you can think of would be useless and our whole supply system would break down. Yet the average draft board official is apt to say: "Glue? What's so scientific about glue?" He doesn't know that in the last 20 years the manufacture of adhesives has become largely a chemical process that must be operated by chemists and chemical and mechanical engineers. The same holds true for almost any packaging material or equipment.

No local draft board is in a position to judge the technical requirements of this or any other industry. The only answer is a blanket ruling deferring chemists and engineers *as a group*, regardless of individual circumstances—except where the Armed Forces have a specific need for their skills. This ruling must be made in Washington, and we strongly urge that packagers write to their Congressmen and to the Armed Services Committee of both houses to press the point home.

This is not special pleading. It is a matter of sensible national policy, in the best interests of every citizen.

The Editors

Dobeckmun

PRICING POLICY

Only a fair and sound pricing policy can sustain for a long period the prosperous business of both seller and buyer.

This fundamental principle has motivated Dobeckmun's thinking since the company's inception in 1927.

Although our labor, raw materials and other manufacturing costs have risen like those in every other industry, our prices have increased only very little in relation to general price indices.

Maintenance of this business philosophy has been made possible by two planned developments:

Greatly Expanded Volume, now over four times the 1941 level.

Increased Capital Investment per Worker; plant and equipment investment per worker has more than doubled since 1941, from $2700 to $5800. This has resulted in greatly increased individual productivity, substantially reducing our operating costs.

In the last few years, realistic price adjustments have been put into effect, to relate prices to efficient production. While changes both up and down resulted, this policy has meant relatively lower prices for larger orders and for standardized orders which permit the utmost efficiency.

During the inflationary surges of materials and labor costs in 1950, and especially since Korea, our price planning has enabled us to limit increases only to those caused by rises in raw material costs and a fractional part of labor adjustments.

We pledge a continuance of these policies:

To produce the finest quality possible.

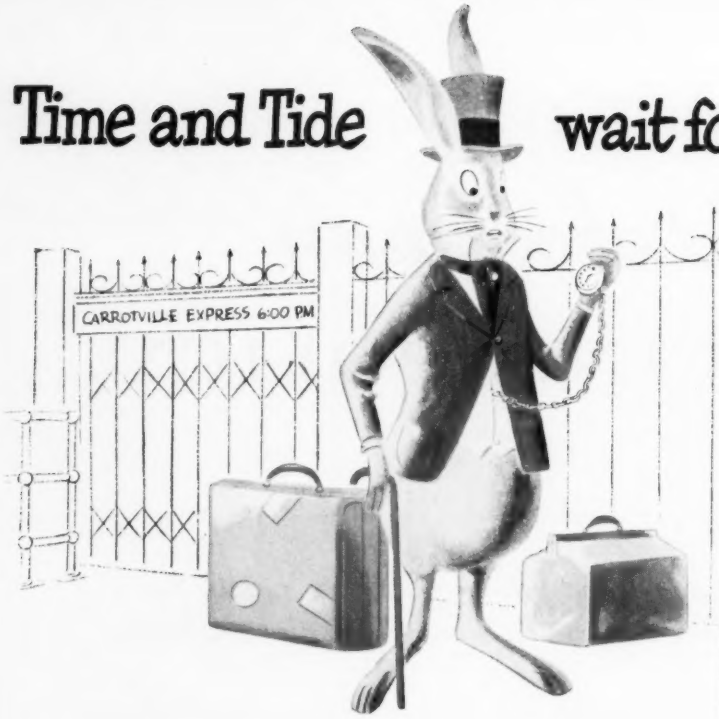
To share savings from more efficient production with our customers.

To restrain price increases to the minimum required for profitable operation.

The Dobeckmun Company

CLEVELAND 1, OHIO • BERKELEY 2, CALIF.

Time and Tide wait for no man



True . . . with this exception. Our displays, labels and packagings are always stopping tides . . . the tremendous tides of shoppers flowing in and out of stores all over America. Consolidated's point-of-purchase aids have what it takes to make 'em stop step up to the counter . . . and wait their turns to buy. Leg-work, brain-work and know-how do it. Consolidated's Marketing Division pounds pavements to get the facts about product and market. Gray matter and the experience of our creative specialists translate these facts into point-of-purchase aids that give products a definite competitive advantage. Could your line use a boost like this? If so, then it's time for you to phone Consolidated. No obligation, of course.

Frozen foods, being but a part of grocery sales, get little display. Seabrook, however, wins many showings with this "Farmer" unit. Created by Consolidated, it's offered in 3 sizes and so is suitable for complete windows, partial windows or counters.

For years Stahl-Meyer supplied costly empty tins to retailers for display purposes. These dummy packages, as created by Consolidated, are made of light cardboard. They effectively simulate the real tins formerly used—at a fraction of their cost. They ship flat, too.

CONSOLIDATED *Lithographing Corporation*

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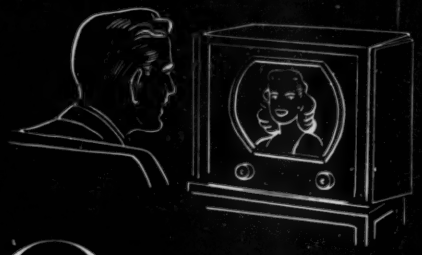

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Spokane, Wash.	Blake, Moffitt & Towne
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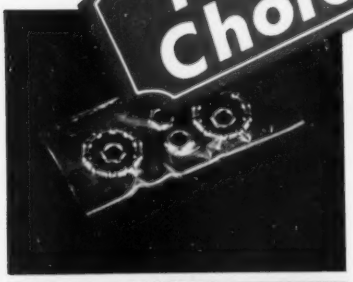
Tacoma, Wash.	Blake, Moffitt & Towne
Tampa, Fla.	Tampa Paper Co.
Toledo, Ohio	Paper Merchants, Inc.
Tucson, Ariz.	Blake, Moffitt & Towne
Washington, D. C.	The Mudge Paper Co.
Worcester, Mass.	C. A. Esty Paper Co. *(Div. of Carter, Rice & Co. Corp.)*

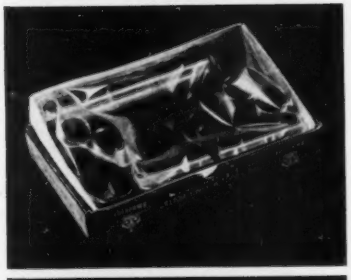
For Government Orders

First Choice



TRALON*

***Polyethylene is first choice for protective packaging. Meets packaging requirements for many government orders.**



Government orders with DO (defense order) rating will be given preferential treatment with respect to production and shipment. Such orders calling for the use of special laminated materials, cellophane, glassine, tralon (polyethylene), pliofilm, acetate, aluminum foil, and paper board "loxtite" partitions will be filled regardless of any material allocation restrictions. Our several plants are ready to serve you in fulfilling package requirements as outlined above.

We are in a position to supply a complete contract packaging service. We will produce your package and fill and seal it in our own plants if you so desire.

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Sales Offices in:
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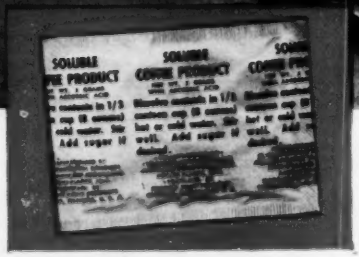


Acetate-Bonded Aluminum meets government specifications for Soluble Coffee, Powdered Milk, Sugar, Tea, Salt, Bouillon Concentrate, Heat Tablet (Trioxane), Assault Rations. This pliable, printable material fills and forms easily on most high-speed packaging machines. It takes an extremely firm and impenetrable heat seal. The completed package is moisture-vapor proof, holds flavor, protects against contamination and is impervious to light rays. Widths of 2" to 25", with acetate side "reverse-printed" as desired in one color with a variety of background colors.

Barrier Material for Accessory Packaging. A very flexible foil-on-kraft material with waterproof laminant and clear Vinyl Heat Seal Coating. Extremely low moisture-vapor transmission for small packages such as medical supplies, cigarettes, bandages, ration material and many quartermaster packaging applications. Supplied in standard widths of 24" and 36" for manufacturer's own printing and automatic packaging operations. Or write for data on pre-formed printed packages.

...REYNOLDS ALUMINUM

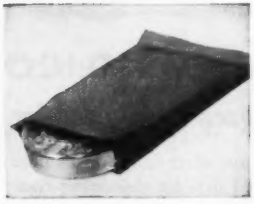
Barrier Materials . . . Grade A Wrap . . . Acetate-Bonded Aluminum

Reynolds pioneering in military packaging goes all the way back to World War I, when Reynolds developed a new type of laminated material for ammunition protection . . . and produced ammunition containers in huge quantities.

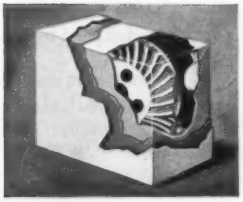
In World War II, this pioneering in protective packaging broadened into diverse fields . . . not only ammunition but perishable foods, drugs, airplane parts, photographic and electronic equipment, under extreme climatic conditions from the Arctic to the Tropics.

For these and many other uses, Reynolds was a major supplier of foil packaging to our World War II armed forces. For creating new types of war packaging, Reynolds received a Special Award in the 1942 All-America Packaging Competition.

Presented here are five of the principal applications of today's "Fighting Foil."



Barrier Material for Bags, Interior Packaging. A heavier foil-on-kraft material with waterproof laminant and Vinyl Heat-Seal Coating, especially designed for larger bags. Grease proof, waterproof and moisture-vapor proof. Meets government specifications for bags, interior packaging and also meets basic material specifications for a Grade A non-corrosive wrapping material. Sufficiently flexible for easy handling, yet tough and tear-resistant. Supplied in standard widths of 24" and 36", also in printed pre-formed bags ready for filling and sealing.



Barrier Material for Method II Packaging. This is a triple lamination of foil, cloth and heat-sealing plastic sheet, designed for the highest degree of moisture-vapor and physical protection—the Method II (carton-barrier-carton) application with desiccant. Meets government specifications for the above requirements in Method II packaging. Supplied in standard width of 36".

Aluminum Foil for Grade A Wrap. Conforms closely to odd shapes; eliminates taping or tying; saves time in packing and in many cases considerable material. Under certain moist atmospheric conditions, protects metal parts against both galvanic and contact corrosion. Supplied in .001", .0015", .002" and .003" gauges. Meets government specifications as a Grade A greaseproof wrapper and as a barrier between metal surfaces and dunnage.

REYNOLDS METALS COMPANY

Reynolds Technical Service is at your disposal not only for complete data on the materials shown, but also with extensive research facilities for the development of new materials and packages. Contact nearest Reynolds Sales Office, or: **Reynolds Metals Company**, 2500 South 3rd Street, Louisville 1, Ky.

2 for 1

CLEVELAND CONTAINERS
are frequently designed for DUAL PURPOSES

This attractive silver-and-red container of Stanley Home Products, Inc., is used first for delivering their kitchen utility set to the housewife. She then uses it as her knitting bag . . . so handy and attractive for carrying her yarn and needles . . . and purposely so designed by Cleveland Container.

Many manufacturers under present restrictions are looking for just such dual purpose packaging plans.

Consult us on new ideas that will meet your needs.

2 uses in 1
cuts package
costs in two

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVE. CLEVELAND 2, OHIO
• All-Fibre Cans • Combination Metal and Paper Cans
• Spirally Wound Tubes and Cores for all Purposes

PLANTS AND SALES OFFICES: Cleveland, Detroit, Chicago, Plymouth, Wisc., Jamesburg, N. J., Ogdensburg, N. Y. • ABRASIVE DIVISION at Cleveland SALES OFFICES: Grand Central Terminal Bldg., New York City; Washington Gas Light Bldg., Washington, D. C.; West Hartford, Conn.; Rochester, N. Y. Cleveland Container Canada, Ltd., Prescott, Ontario • Offices in Toronto and Montreal

Kimpak Float Packaging*

SURFACE PROTECTION
General Mills Tru-Heat Iron

Cuts shipping costs—
reduces damage in transit!

Does the product you make get the best possible shipping protection on its way to market? Does your packaging operation move quickly—with minimum demand on labor and material?

A vigorous "yes!" to these questions is answered by the scores of companies that investigated—and changed—to KIMPAK* Float Packaging. For it's the world's most effective shipping protection, at lowest true cost.

KIMPAK creped wadding is a pre-fabricated, grit-free material of many thicknesses. It's soft, clean, feather-light—easy to apply as wrapping paper. Whether you ship furniture, food or appliances—pharmaceuticals, clothing or flowers—you'll find a specification of KIMPAK designed especially to protect your product against any shipping hazard. And because KIMPAK is not a waste material, but comes in rolls or sheets, it can be "tailored" to meet your particular packaging requirements.

Try KIMPAK soon—for any of the Four Basic Methods of Interior Packaging: Bracing and Blocking, Flotation, Surface Protection, Absorbent Packaging. For further information, see your nearest KIMPAK distributor listed in classified telephone directories under "Packing Materials" or "Packing Materials—Shipping"; or write to Kimberly-Clark Corporation, Neenah, Wisconsin.

Candy, made by Chester A. Asher Co., Philadelphia, Pa.

Geiger tube, manufactured by Tracerlab, Inc., Boston, Mass.

FREE BOOKLET!

KIMBERLY-CLARK CORPORATION
Neenah, Wisconsin MP-251

Please send me free, the illustrated KIMPAK booklet, "Float Packaging."

Name .....

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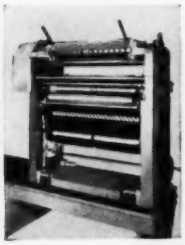
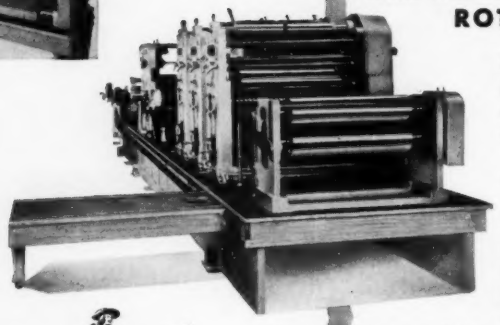
REG. U.S. PAT. OFF. & FOREIGN COUNTRIES
A product of Kimberly Clark Research
CREPED WADDING

*T. M. REG. U. S. PAT. OFF. & CAN.





No Down Time

with this new heavy-duty, high-speed ROTARY LETTERPRESS

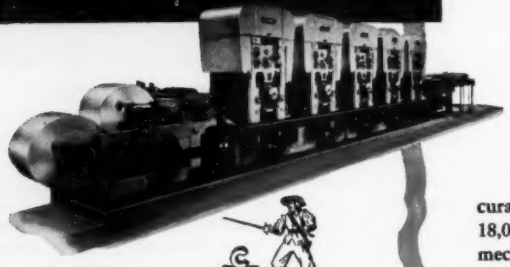
Champlain's new high-speed, heavy-duty Rotary Letterpress permits wash-up, plate changes, and set-up for the next run without press down time.

Individual color units, mounted on roller casters, are easily extracted from normal printing position to a traveling auxiliary bed permitting wash-up, plate changes, etc. while other units are running. Press sizes 26", 31", and 36". Designed with minimum/maximum printing range to meet customer's specifications. Equipment is available with from one to seven color units. Both engraving and impression cylinders can be removed for size change without disturbing press frames or inking mechanism. Write for complete information.

7462

SPECIFICATIONS

Sheeter Size	Max. width of sheet	Max. length	Min. length
14"	15"	18"	9"
20"	21"	26"	13"
26"	28"	34"	17"
36"	37"	34"	17"



sheet delivery Economy with high speed Rotogravure advantages

Champlain's Rotogravure Presses and Sheeters deliver instantly dried multicolor sheets two ways: to a slow-moving belt or to an accurately jogged pile delivery by synchronized positive grippers. Stock ranging from glassine to cardboard is accurately cut to ∓ 1/64 tolerance at speeds up to 18,000 sheets per hour. Easily adjusted cutting mechanism delivers a complete range of sheet sizes. Printing and cut-off register is controlled by a running register mechanism. Automatic-eye control of register is also available with Champlain's Registron. Write for further information.

7461

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Champlain manufactures a complete line of rotogravure, aniline, rotary letterpress and allied equipment for packaging and specialty printing.

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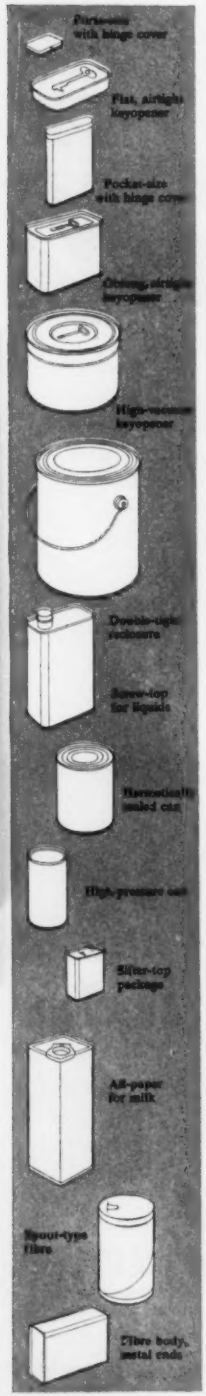
WHICH PACKAGE SUITS YOUR PRODUCT?



The most important thing to know about the turpentine can!

The most important thing about this container is not that it is a handy can that pours easily, doesn't drip and closes tight. Nor that it is known as the package that "works with" the label by providing plenty of space to show your brand in brilliant color.

No, the most important thing about this container is the fact that it is just one of the *hundreds* of containers pioneered and developed by American Can Company. Packages in use today by an enormous number of different businesses.

We mention this as a means of pointing up the fact that Canco, since 1901, has come up with the solution to more packaging problems than any other organization in the industry.

And it is this experience that developed Canco's many-sided art of versatility—an art which is practiced time and again to the advantage of its customers.

Today, in these critical times, Canco's 50 years of accumulated knowledge and resourcefulness will help its customers meet the unusual problems brought about by the national emergency.

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NEW YORK CHICAGO SAN FRANCISCO HAMILTON CANADA

The Handiest Bottle Ever Made!
Manufactured Under Pat. No. 2,513,093
Other Patents Pending
ELMER E. MILLS CORPORATION'S
Polyethylene
Plastic Bottle
This is *the* bottle with consumer appeals so strong they actually help sell your product!
It's unbreakable—a powerful consumer selling point on safety and thriftiness.
It's lightweight—takes up less space (and incidentally cuts your shipping cost).
It's a "squeeze bottle"—can be readily adapted to use as a stream—as a spray—as a sprinkler finish.
Our stock bottle is available in 1—2—4—8 ounce sizes. Through a special printing process we can print your label or design right on the bottle.
In addition to the production of this stock bottle and stock closure, we also custom make other thermoplastic bottles, closures and atomizers. You can depend upon their being made with the same high standards of craftsmanship which keynote all Mills plastic products.
For more information on our custom molding service, or for a free sample bottle, write us or our sales agent today.
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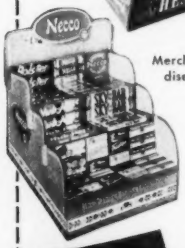

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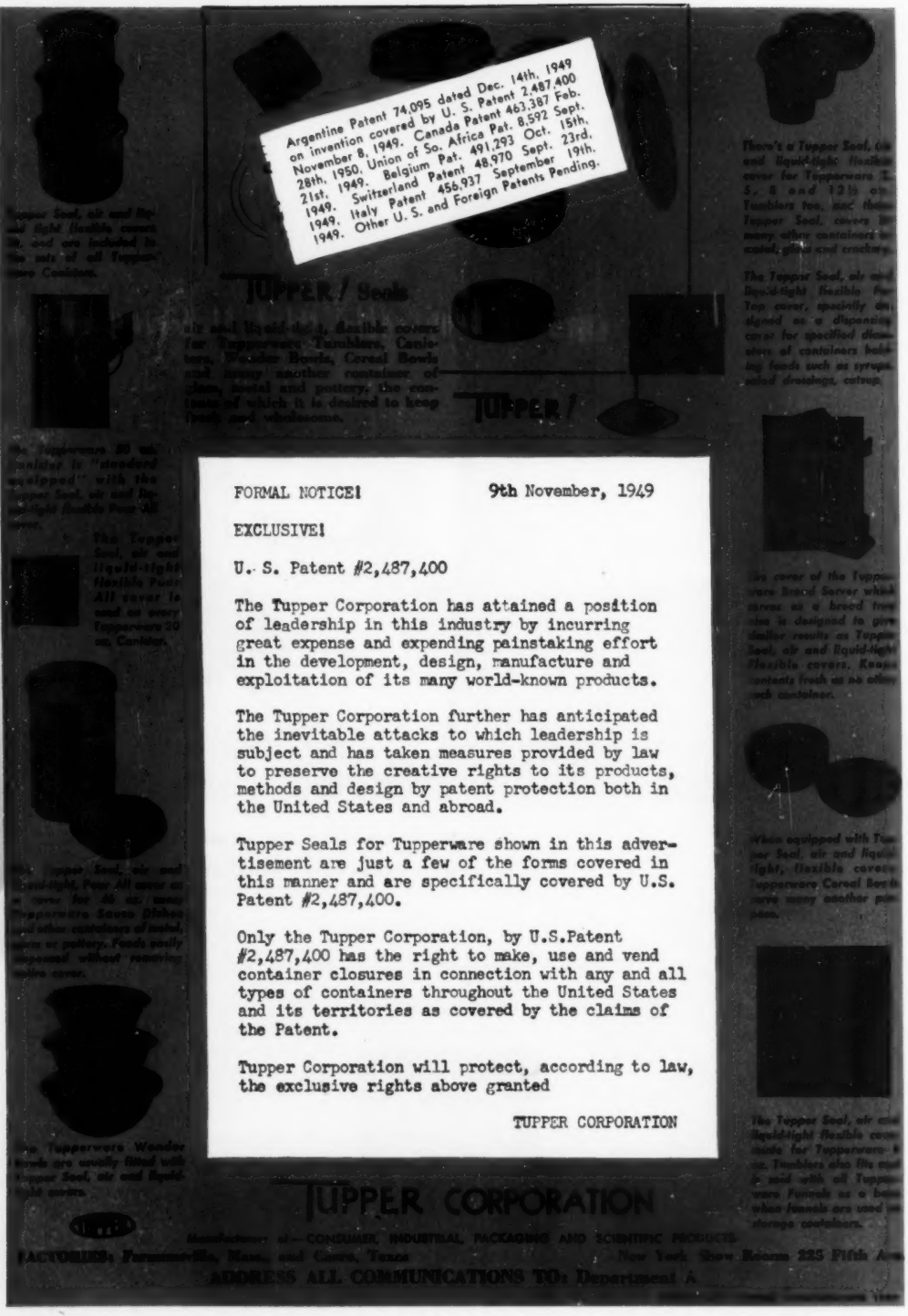
4200 SOUTH CRAWFORD AVENUE • CHICAGO 32, ILLINOIS

FOLDING CARTONS • PLAIN • PRINTED • LAMINATED • PARAFFINED


Argentine Patent 74,095 dated Dec. 14th, 1949 on invention covered by U. S. Patent 2,487,400 November 8, 1949. Canada Patent 463,387 Feb. 28th, 1950. Union of So. Africa Pat. 8,592 Sept. 21st, 1949. Belgium Pat. 491,293 Oct. 15th, 1949. Switzerland Patent 48,970 Sept. 23rd, 1949. Italy Patent 456,937 September 19th, 1949. Other U. S. and Foreign Patents Pending.
TUPPER / Seals
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FORMAL NOTICE! 9th November, 1949
EXCLUSIVE!
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The Tupper Corporation has attained a position of leadership in this industry by incurring great expense and expending painstaking effort in the development, design, manufacture and exploitation of its many world-known products.
The Tupper Corporation further has anticipated the inevitable attacks to which leadership is subject and has taken measures provided by law to preserve the creative rights to its products, methods and design by patent protection both in the United States and abroad.
Tupper Seals for Tupperware shown in this advertisement are just a few of the forms covered in this manner and are specifically covered by U.S. Patent #2,487,400.
Only the Tupper Corporation, by U.S.Patent #2,487,400 has the right to make, use and vend container closures in connection with any and all types of containers throughout the United States and its territories as covered by the claims of the Patent.
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SPECIFICATION BARRIER MATERIALS

Designed Specifically to Meet Government Packaging Specifications

JAN B-121—Barrier Materials—Greaseproof
P-117—Bags—Interior Packaging

Manufacturers engaged in packaging which must conform to Joint Army-Navy (JAN) Specifications will find the following chart of considerable value. The Loxol* materials it lists, when handled according to instructions, unqualifiedly meet the indicated JAN Specifications.

LOXOL · Polyethylene on Kraft

SPECIFICATION	MATERIAL	DESCRIPTION
JAN-B-121 Grade A Type I Class 1	ARCTIC PAK I (flat)	A wrap consisting of polyethylene hot melted to neutral Kraft. For hand wrapping of small parts. Flexible to 65° below zero.
JAN-B-121 Grade A Type I Class 1	ARCTIC PAK I (creped)	A moldable, creped wrap (with 15% stretch) consisting of polyethylene hot melted to neutral Kraft. Easily formed to follow almost any shape closely. Flexible to 65° below zero.
JAN-P-117 Grade A Types I and II Classes a, b, c	PENGUIN PAK	A polyethylene coated neutral Kraft designed for fabrication by heat sealing into bags, pouches, and envelopes to meet the JAN specification. Flexible in temperatures to 65° below zero. Also highly resistant to synthetic hydraulic oils.

LAMINATE on Kraft

SPECIFICATION	MATERIAL	DESCRIPTION
JAN-B-121 Grade A Types I and II Class 1	LAMINE I and II	A wrap consisting of a sheet of glassine paper securely laminated to a sheet of neutral Kraft. Highly grease resistant for wrapping of oily metal parts. Also excellent material for fabrication into glued bags, pouches, and envelopes.

Arctic Pak and Lamine are available from stock for immediate delivery in rolls 36" wide. The rolls contain 200 yards each except in the case of Arctic Pak I creped, which comes in 100 yard rolls.

Since Penguin Pak requires a specified type of fabrication, it is sold only to fabricators. A list of fabricators who supply bags and other containers made of this material will be sent you on request.

Penguin Pak, Arctic Pak, flat and creped, are made by the exclusive LOXOL PROCESS which hot melts polyethylene to paper. LOXOL is readily heat sealable and retains both strength and flexibility over a wide temperature range.

Sample sheets which include detailed specifications are yours for the asking.

SPECIAL NOTE:

Distributorships for these materials are open for certain valuable territories. Write for more information.

*T.M. Reg.

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papers
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only one
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The high wet-strength and grease-resisting qualities of Patapar Vegetable Parchment are helping business men solve problems in many fields. Would you like to get the whole remarkable story? Write on your business letterhead for booklet T, "The Story of Patapar."

*Made in 179 different types.

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Wonderful for:

- Butter wrappers
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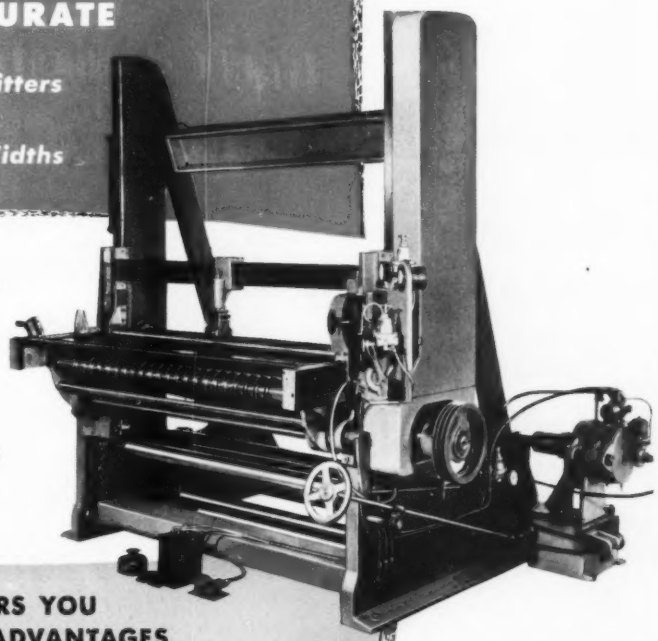
HI-WET-STRENGTH
GREASE-RESISTING PARCHMENT

New Kidder Design

MAKES CUTTING FASTER, EASIER AND MORE ACCURATE

Merchant Model Slitters Now Come In 42", 54", and 60" Widths

Modern Design of Kidder Merchant Model Slitters locates all controls within easy reach of operator for faster, more accurate cutting.



To the time-tested features that have made Kidder Merchant Model Slitters first choice of leading converters, Kidder now adds several new advantages. Also the addition of the 60" width opens up new fields of usefulness.

ONLY KIDDER OFFERS YOU ALL THESE ADVANTAGES

Anti-Friction Bearings throughout mean higher efficiency and lower maintenance costs.

Shear Cut scissor-action severs the web all the way through instead of merely crushing the fibres. Rolls practically fall apart. Specially mated steels give you months of slitting without need of resharpening cutters.

Speeds up to 1200 F.P.M. give you the benefits of high speed without sacrificing accuracy.

Automatic Roll Diameter Setting Device assures uniform diameter or yardage rolls.

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Water-Cooled Brake of the friction type promises long, dependable service.

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42", 54", and 60" Widths give you a choice for more economical cutting. Machines will cut from lightweight papers up to 300# Kraft. Special cutter set up now available will give a minimum slit of ¼" with automatic cutter throw-off.

KIDDER
THREE POINT
SLITTERS

give you

1. Clean, Accurate Cutting
2. High Speed, Dustless Operation
3. Easy Separation of Rolls

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THE BEMIS DELTASEAL BAG *PLUS* DELTASEAL PACKAGING EQUIPMENT

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The most Economical, Efficient Package for Your Product

- Deltaseal® filling and closing is fast... mostly automatic... less handling.
- Deltaseal Bags have a neat, square, full-pack appearance... build easily into eye-catching displays.
- Crisp, brilliant Bemis printing on Deltaseals headlines your brand.
- Consumers like Deltaseal's exclusive Pull-Cut-Pour Spout.
- Bemis Packaging Specialists help you get the smoothest, most economical service from your Deltaseal System.

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Bemis

EYE STOPPER

That's the effect a Dennison designed seal gives your package. It has that something extra—the result of constructive imagination, designing talent, manufacturing teamwork. Dennison experience and versatility offer you the finest in packaging accessories — tags, seals, wraps, bands, labels, merchandise cards, set-up boxes. For samples and suggestions appropriate to your product, call nearest Dennison sales office or write Dennison Manufacturing Co., Framingham, Mass.

Dennison

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Sure-fire Sales Appeal

The new ZIPPO Leather-Crafted Lighter — familiar friend of smokers everywhere — has all the rich texture and deep-toned beauty of fine leather.

For sure-fire sales appeal ZIPPO chooses a Dennison-designed box — one that matches quality for quality.

Dennison designed set-up boxes and cases display the creative talent and technical skill built up by one hundred and seven years of leadership in the field of packaging.

Call nearest Dennison office or write Dennison Box Division, Marlboro, Mass.

LOOK TO Dennison FOR PACKAGING THAT CONFIRMS THE VALUE OF YOUR PRODUCT

It puts show business in the showroom

. . . keeps dealers' windows SRO!

The television cabinet is cardboard.
The screen is simulated in print.
But the clown blows real bubbles!

A hundred floating iridescent bubbles a minute . . . that vanish without a trace. A gallon jar of special solution with each display supplies bubbles for forty hours.

The stream of bona fide bubbles stops traffic . . . arouses interest and curiosity, holds absorbed onlookers for minutes . . . fixes "Admiral" firmly in their minds.

Eight hundred Admiral retailers reported it the best display they ever had . . . never lacked an attentive audience . . . brought in hundreds of prospects for demonstrations.

This extraordinary animated display, evolved and produced by Einson-Freeman . . . was one of the most effective and economical means ever devised of winning dealer appreciation and cooperation—and making sales! We will be glad to show it, and other recent E-F productions, on request.

To get more action and audience for your display money, ask Einson-Freeman to suggest an animated display that makes dealer windows sell for you!

Einson-Freeman Co., Inc.
Forever blowing bubbles—for sales!
Starr & Borden Aves., Long Island City, New York

James Heekin founded the Heekin Can Company in 1901 in this building where power came from a wheel driven by water from the Old Miami Erie Canal.
JAMES HEEKIN
THE HEEKIN CAN CO.
IT TOOK 50
THE HEEKIN CAN CO.
A partial view of the big Norwood, Ohio plant covering approximately two squares.
A HALF CENTURY
OF METAL PACKAGING
A HALF CENTURY OF METAL PACKAGING
1900 1950
THE HEEKIN CAN CO. CINCINNATI, OHIO
EXPERIENCE AND SERVICE
THE HEEKIN CAN CO
HEEKIN
HEEKIN
Note adequate railroad shipping facilities in these big connecting plants in Cincinnati.
LITHOGRAPHED OR PLAIN
METAL CONTAINERS

Theodore Roosevelt became President following McKinley's assassination.

YEARS TO WRITE THIS

Fifty years ago, a man with faith in these United States started The Heekin Can Company. Where else is Courage, Ambition, and Integrity so well rewarded? Where else can a man go into business and pass on to his successors the fruits of his labor? This company was founded on honest consideration of its customers, plus a personal service that makes business a pleasure. Today, the third generation of James Heekin is active in its management. They, too, believe in the future of this company.

First expansion was in 1908 to this plant which has since been substantially enlarged and completely modernized.

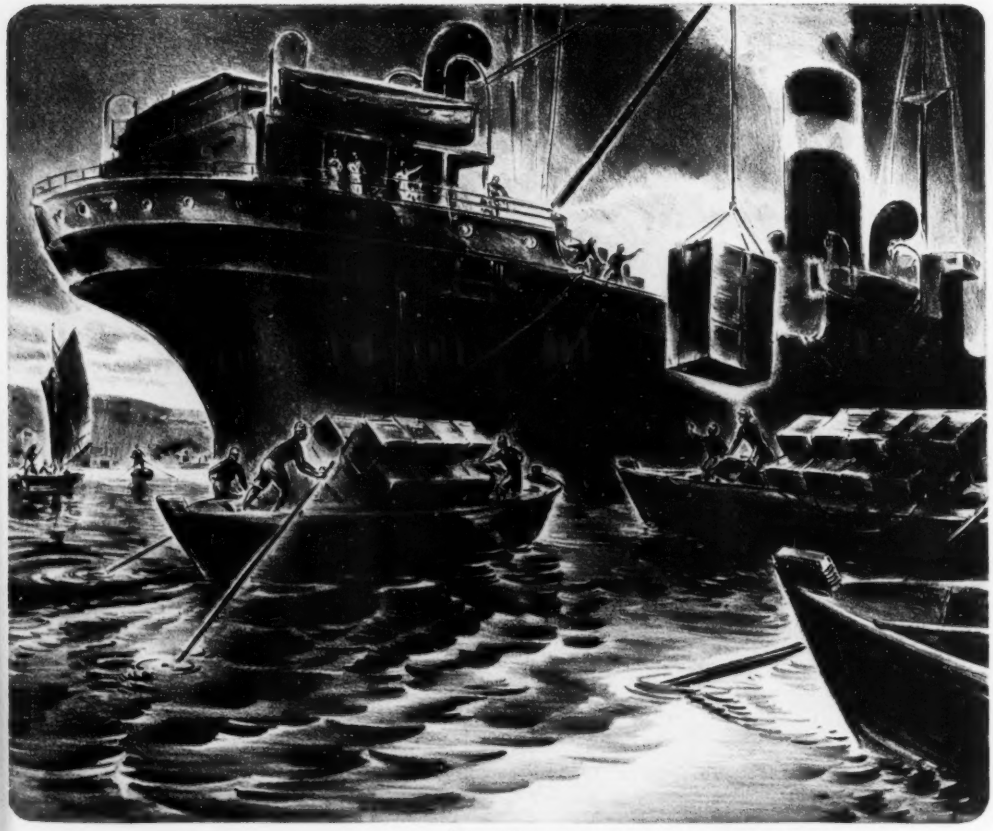
Air view of plant at Springdale, Arkansas.

Partial view of plant at Chestnut Hill, Tennessee.

1901 1951

HEEKIN CANS

THE HEEKIN CAN CO., CINCINNATI 2, OHIO



"LOADING TEA IN CEYLON"—AN ORIGINAL LITHOGRAPH BY HENRY E. WINZENREID

"TEA FOR TWO"*

"Tea for two" is a fast growing American custom, but good tea must be carefully packaged to preserve its full flavor and aroma . . . and to prevent contamination by outside odors. To secure this protection, most of the best-known brands use special Riegel papers . . . highly protective papers that are attractive to the eye and that work well on modern packaging machinery.

There's a Riegel Paper for almost any requirement you may have in protective packaging . . . a paper you can depend on for economy and production efficiency. We feel sure we can serve you in the same effective manner we now serve the sales leaders in so many different fields. Write us today.
Riegel Paper Corporation • 342 Madison Avenue, New York 17, N. Y.

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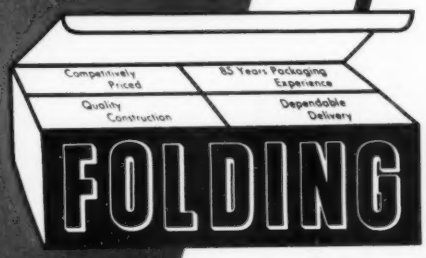
Riegel **TAILOR-MADE PAPERS FOR PROTECTIVE PACKAGING**

Ritchie



FOLDING CARTON USERS ARE PROFITING

—through the use of Ritchie's most modern machinery and methods known to the packaging industry.

Join the constantly increasing number of Folding Carton Users who are Profiting from the benefits of RITCHIE'S Modernly-Equipped Folding Carton Plant . . . Quality Construction . . . 85 Years of Packaging Experience . . . Competitive Pricing . . . and Dependable Delivery.

The Folding Cartons shown here are only a few examples. Let THE RITCHIE PACKAGING PANEL help you on *your* Folding Carton or other packaging problems.

Seal-end Type — one of the many varieties of Folding Cartons that Ritchie can produce to meet your special requirements.

Reverse Tuck Type — all Ritchie Folding Cartons are pre-folded, parallel to the glue-lap — making assembly operations easier, faster.

Tuck Top — Lock Bottom. All plates for Ritchie Folding Cartons are unmounted, bringing you a saving in plate and stock costs.

W·C·Ritchie AND COMPANY
A Source of "Packaging Satisfaction" Since 1866

Manufacturers of Set-up Paper Boxes, Folding Cartons, Transparent Packages, Fibre Cans, Tubes, Cores and Spools

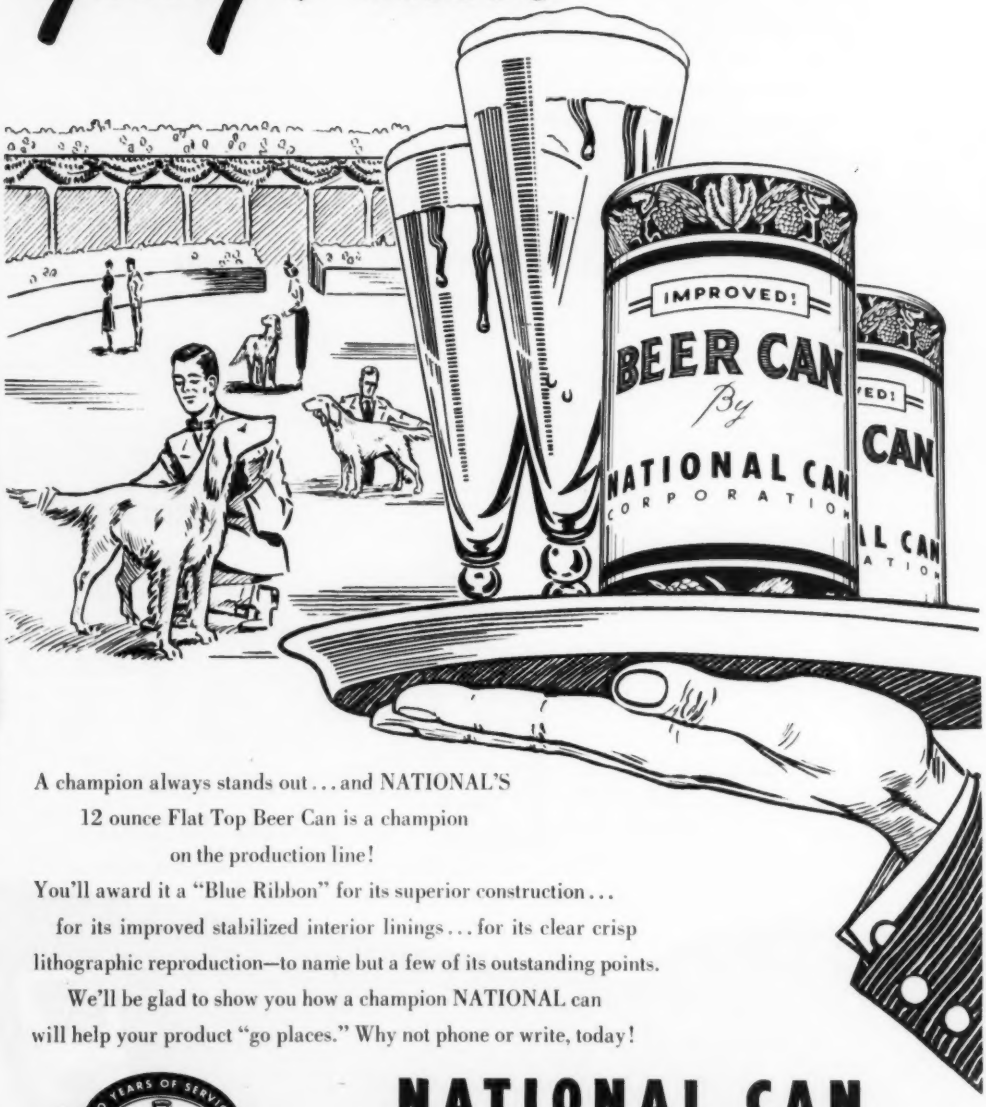
W. C. Ritchie and Company
8241 Baltimore Ave., Chicago 17, Ill.
Please send me copy of booklet "101 Ways to Get Better Packaging." I am interested in: ☐ Set-Up Boxes ☐ Fibre Cans ☐ Transparent Packages ☐ Folding Cartons. ☐ Please have a Ritchie Representative call.

SIGNED _____ TITLE _____
COMPANY NAME _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

Sales offices: 8241 BALTIMORE AVE., CHICAGO 17, ILL. Sales offices: New York • Los Angeles • Detroit • Dallas • Boston • Philadelphia • St. Louis • Cleveland • Jacksonville

NATIONAL CANS

Going Places---



A champion always stands out . . . and NATIONAL'S
12 ounce Flat Top Beer Can is a champion
on the production line!
You'll award it a "Blue Ribbon" for its superior construction . . .
for its improved stabilized interior linings . . . for its clear crisp
lithographic reproduction—to name but a few of its outstanding points.
We'll be glad to show you how a champion NATIONAL can
will help your product "go places." Why not phone or write, today!

50 YEARS OF SERVICE
NATIONAL CAN CORPORATION
1901 • 1951

NATIONAL CAN
CORPORATION
110 EAST 42nd STREET, NEW YORK 17, N.Y.

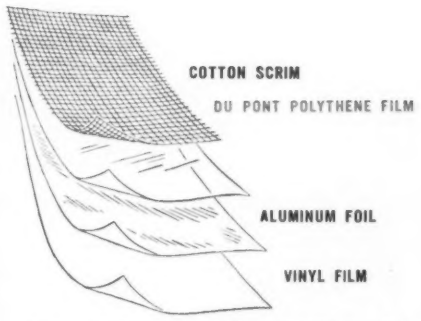
Military uses are taking more and more Du Pont Polythene Film

TODAY, military needs are taking an increasing amount of Du Pont Polythene Film because of its unique basic properties and adaptability to a number of specialized packaging requirements over a wide temperature range.

Outstanding among Du Pont Polythene Film's properties is its permanence of initial durability and/or flexibility at extremely low temperatures. Even at temperatures as low as -70°F., this non-plasticized film will not stiffen, become brittle or shatter.

This durability at sub-zero temperatures, combined with its toughness, water-proofness, protective characteristics and dimensional stability, make Du Pont Polythene Film highly suitable for many military packaging uses.

As a result of increasing military demands, the present supply of Du Pont Polythene Film for civilian use has become limited. We suggest, therefore, that you carefully investigate availability before planning commercial use. E. I. du Pont de Nemours & Co. (Inc.), Film Dept., Wilmington 98, Delaware.



One of the present principal military uses of Du Pont Polythene Film is in the construction of the laminated barrier material, diagramed above. This flexible and durable lamination is currently being used for protecting aircraft engines and other material in accordance with the so-called Method II type of packaging.

Du Pont
Polythene Film
By the makers of Du Pont Cellophane
DU PONT
BETTER THINGS FOR BETTER LIVING ... *THROUGH CHEMISTRY*

STAR BRAND ADHESIVES..

PASTES · GLUES · ADHESIVES GUMS
STAR BRAND

ONE TRIAL IS WORTH A THOUSAND WORDS!

That comfortable feeling of *knowing* your adhesives are on the job *after* production is yours the day you standardize with STAR BRAND ADHESIVES

Ceaseless research, finest raw materials and careful compounding put into every Star Brand Adhesive the reliability that means *results* . . . flawless, dependable results for each of your packaging operations calling for an adhesive.

From labeling to case sealing . . . there's a Star Brand Adhesive formulated to deliver exactly the results you're looking for.

For exceptional conditions requiring a *special* adhesive, try our RESINOUS and LATEX BASE emulsions . . . and our LACQUER TYPE adhesives.

- **STAR Case Sealing Glue**
- **STAR Folding Box Glue**
- **STAR Hot & Cold Pick-Up Gums**
- **STAR Tin Paste**
- **STAR Brightwood Gum**
- **STAR Carton Sealing Glue**
- **STAR Bench Paste**
- **STAR Tube Glue**
- **STAR Lap End Paste**
- **STAR Tightwrap Glue**

. . . and STAR Labeling Glues in Ice-proof and Semi-ice-proof formulations.

Bingham Adhesives

"MAKE YOUR IDENTITY STICK"

BROTHERS COMPANY

SINCE 1826

NEW YORK 406 Pearl St. · BALTIMORE 131 Colvin St. · PHILADELPHIA 1315 Race St. · ROCHESTER 980 Hudson Ave. · NEWARK Lister Ave.
GARWOOD 648 South Ave. · CAMBRIDGE 23 Harvard St.

JOHNSTON'S ALUMINUM FOIL

Wrigley uses aluminum foil to help retain the flavor and freshness of Wrigley's Spearmint, Doublemint and Juicy Fruit Chewing Gum. Johnston's Foil is also used for wrapping products of many other manufacturers.

JOHNSTON FOIL MANUFACTURING CO.

Makers of Quality Foil for over 60 Years

6016-6298 S. Broadway St. Louis 11, Mo.

Tri-State RIGID PLASTIC BOXES give...

A *Hearty* LOOK TO A *Hearty* TREAT

Hearty Brands, Bronx, N. Y.—serving supermarkets, food and delicatessen stores in the Metropolitan New York area—chooses Tri-State Rigid Plastic Boxes for packaging perishables to build new volume at the point-of-sale.

Packing their Macaroni Salad, Potato Salad, Cole Slaw and Fruit Gelatin Dessert in Tri-State's Stock Container No. 420 F (Diam. 3¾" x 2¾" deep), Hearty captures an increasingly greater share of its highly competitive market with a reuseable premium package. The Tri-State Rigid Plastic Box preserves perishables longer, permits 100 percent visibility of merchandise and provides ample area for attractive brand identification. Combining shatterproof safety with the sight-selling appeal of glass, packaging in transparent plastic—in Tri-State Rigid Plastic—gives these "Hearty" Brand delicacies the extra feature of a bonus utility box which customers can use again and again. And Tri-State's close production tolerances permit safe sealing of Stock Container No. 420 F without the use of adhesive material.

Packagers of delicacies, dairy products, confections—food items of many kinds—can build phenomenal new sales futures for their products, too, by choosing a Stock Container from America's greatest line of Rigid Plastic Boxes. Or we'll be glad to solve your plastic packaging problem individually, by molding to your specifications.

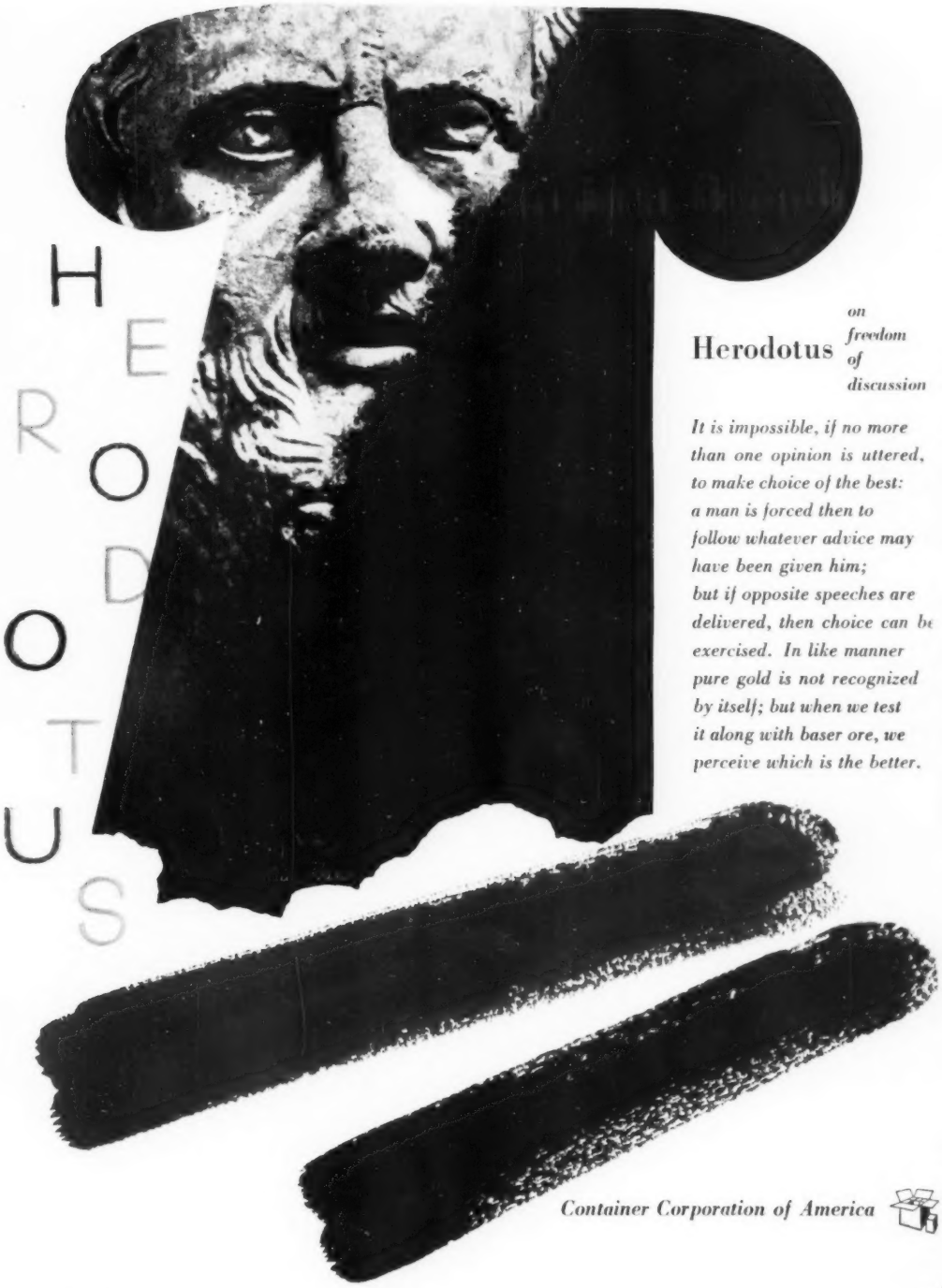
The best Rigid Plastic Boxes are Injection Molded by

TRI-STATE PLASTIC MOLDING COMPANY

HENDERSON, KENTUCKY

NEW YORK: 12 E. 41st St., Murray Hill 3-6572 **CHICAGO**: 176 W. Adams St., Franklin 2-7292

LOS ANGELES: 10583 Holman, Arizona 9-2672



Herodotus

on freedom of discussion

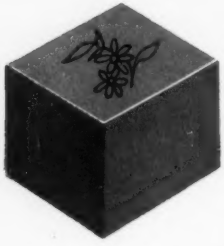
It is impossible, if no more than one opinion is uttered, to make choice of the best: a man is forced then to follow whatever advice may have been given him; but if opposite speeches are delivered, then choice can be exercised. In like manner pure gold is not recognized by itself; but when we test it along with baser ore, we perceive which is the better.

Container Corporation of America

FOIL

PRESENTING

SELLING MAGIC IN



GAIR FOIL CARTONS

FAMOUS PRODUCTS *Sell on Sight!* IN GAIR FOIL CARTONS

Gair-Reynolds Foiline Cartons present a new, powerful selling medium for your product when it goes to market... a medium of distinction that SELLS ON SIGHT. Yes, a great stimulus to impulse buying which is a potent factor in today's "self-service" selling.

These smartly designed and brilliant multicolor FOIL CARTONS are solving packaging problems for many manufacturers who demand meticulous adherence to the sterling qualities of their famous products.

Reach a new sales peak this year... move ahead of competition... increase the prestige of your products... with the "sell-on-sight" magic of MULTICOLOR FOIL CARTONS.

WRITE TODAY FOR SAMPLES

A Robert Gair specialist will gladly supply complete information on multicolor FOIL CARTONS.

GAIR

*Reg. U. S. Pat. Off.

ROBERT GAIR COMPANY, INC. 155 EAST 44th ST NEW YORK • TORONTO

PAPERBOARD • FOLDING CARTONS • SHIPPING CONTAINERS

"OH BOY! LOOK WHAT MOM GOT!"

Yes sir Bill, Mom knows the best way to be ready for active appetites. She always keeps Beardsley's Peanut Butter and Beardsley's Mustard on hand.

J. W. Beardsley's Sons, Newark, N. J., seals the flavor in the jar with dependable Crown Screw Caps. They know from experience that the exceptional uniformity of these caps is an assurance of trouble-free application on production lines and dependable sealing. In addition, Crown Screw Caps have the famous Deep Hook Thread that grips under the glass thread of the container—gives positive down-pull sealing action without binding or freezing.

Come to Crown for *YOUR* closure needs. Our experience and facilities are at your disposal to help you determine the closure and liner that's "right" for your product. Crown Cork & Seal Company, Baltimore 3, Md. *World's Largest Makers of Metal Closures.*

CROWN CLOSURES

Approved by millions of housewives

No matter what your ADHESIVE problem might be, Stein Hall will help you solve it.

With over 85 years of experience, trained technicians and the finest equipment make Stein Hall laboratories outstanding. Our nation wide sales force is available to service you and tell you about Stein Hall adhesives. Always remember, Stein Hall is on call.

STEIN SH HALL

285 MADISON AVENUE NEW YORK 17, N. Y.

ESTABLISHED 1866

Branch offices in 16 cities in U.S. and Canada.

Again...BBD makes Aniline Ink NEWS with a new multi-purpose ink for every type of cellophane...foil...other specialty stocks

Here at last, for the printer of cellophane, foil and other specialty stocks, is a *multi-purpose* aniline ink that puts an end to the problem of special inks for every different type of stock.

With BBD's new *multi-purpose* "*400 Series*" 100% pigmented EXCELLOPAKE INK, you are able to maintain lower ink inventory... cut down "left-over" losses... eliminate errors and lost motion that result from stocking many types of inks... increase production by switching runs from one stock to another without cleaning fountains or changing ink. And that's not all — this new kind of BBD ink also gives you cleaner, sharper, glossier prints... stronger adhesion... and improved performance on press.

The "*400 Series*" *Excellopake Ink* has been exhaustively field-tested by leading aniline printers for the last year, and has successfully met their most critical specifications in actual production runs. Check the 7-point list below and see why it will meet your requirements too.

BBD's *400 Series* ANILINE INK scores on all 7 points

- **MULTI-PURPOSE** ..... use it for every type of cellophane, foil, specialty paper
- **STRONGER ADHESION** .. passes both crinkle, scratch and Scotch Tape tests with flying colors
- **COLOR-STABILIZED** ..... brilliant, richer, glossier... doesn't precipitate when diluted... remains stable in storage
- **SELF-SOLUBLE** ..... cleans itself from plates and rollers with every revolution to give you cleaner, sharper impressions
- **FAST-DRYING** ..... doesn't fill in or offset at running speeds up to 475 feet per minute
- **NON-BLOCKING** ..... at temperatures up to 130°F., both ink-to-ink and ink-to-stock
- **NON-BLEEDING** ..... in water, wax, grease and overprint varnishes

This revolutionary new BBD ink is available in full range of standard and special colors

• For more information and printed samples, contact your nearest BBD office... or request "*400 Series*" descriptive circular from

BENSING BROS. and DEENEY
3301 Hunting Park Ave.
Philadelphia 32, Pa.

Bensing Bros. and Deeney
World's Largest Makers of Aniline Ink
PHILADELPHIA • CHICAGO • WAKEFIELD, MASS.
Pacific Coast: A. M. BOJANOWER, Los Angeles
Export: McLAURIN-JONES CO., New York

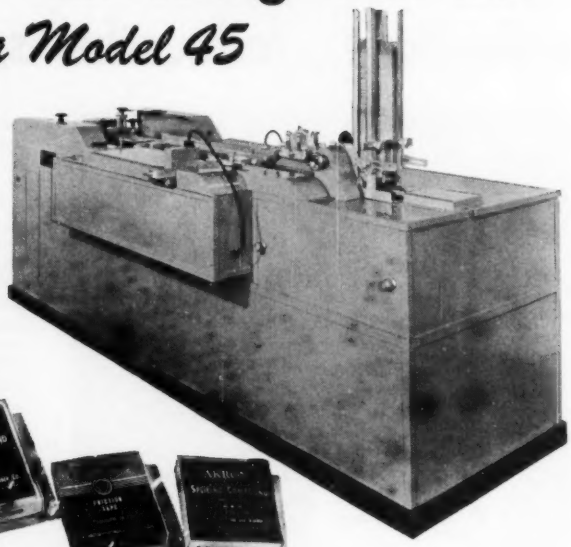
Firestone Cuts Cartoning Cost 50%

With a Model 45

CECO

REG. U. S. PAT. OFF.

Adjustable CARTONER



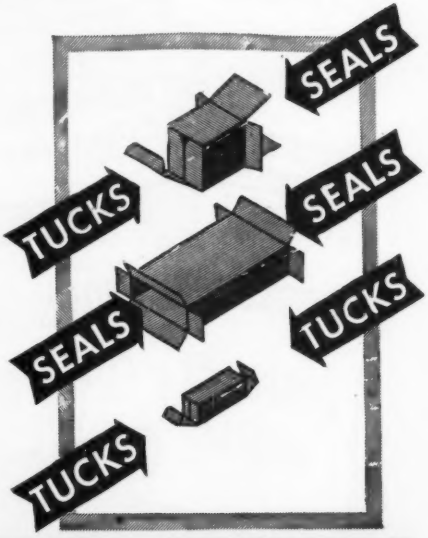
The new CECO Model 45 Adjustable Automatic Cartoner has cut costs approximately one-half, and reduced operation time by about two-thirds. So reports Firestone Industrial Products Division of The Firestone Tire & Rubber Company, Fall River, Mass.

Cartons for various kinds and sizes of wrapped and unwrapped tape are fed automatically from a stack, set up, filled, tucked on both ends simultaneously, and conveyed to the packing case. All operations are fully automatic.

CECO Cartoners are adjustable quickly without tools by unskilled help for a wide range of carton sizes. The machines are ideal for packing unit items or multiples, machine parts, and bottles at speeds adjustable from 1200 to 3600 per hour.

CECO Model 45 will pay back its surprisingly low initial cost within a year out of savings in labor alone. Records prove it. Tell us what you package, and we will send you pertinent facts and figures for similar products.

SEND FOR NEW CECO BULLETIN



CONTAINER EQUIPMENT CORPORATION

MEMBER, PACKAGING MACHINERY MANUFACTURERS INSTITUTE

20 Oriental Street, Newark 4, N. J.

BALTIMORE • CHICAGO • JACKSON • PITTSBURGH • ROCHESTER
ST. LOUIS • SAN FRANCISCO • SAVANNAH • TORONTO

Here's how packagers are stretching their supplies of Cellophane

PERHAPS YOU CAN PROFIT FROM THESE CASE HISTORIES:

Many packagers have found they can make Cellophane supplies go further, and cut costs, too, by taking film-saving steps such as these:

A CANDY FACTORY in New York State adjusted its wrapping machines to make tighter twist-wraps on lollipops. This permitted 236 more wraps per pound of film.

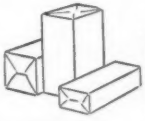
A FOOD PACKER in Oregon reduced the size of sheets for pre-packaged meats ½ inch each dimension. Result—a 12% increase in packaging-film coverage.

A BAKING COMPANY in Virginia found that a tray used for rolls was larger than necessary. Reducing the tray size allowed a correspondingly smaller film width. The Cellophane saved will wrap 7,000 more packages per month.

A FOOD-PRODUCTS COMPANY in the East decided that the fold-over at the top of a Cellophane bag could be eliminated. The bag can be heat-sealed instead of stapled. This will gain many extra pounds of film per month.

A FROZEN-MEAT COMPANY in the East found that replacing a Cellophane wrap, for chip steaks, with a waxpaper bag having a Cellophane window would save 75% of the film being used. The package will still provide transparency where it's needed most.

A BREAD PLANT in New York State adopted a narrower roll-width and reduced the cut-off for variety-loaf wraps. Wraps per pound of Cellophane increased from 72 to 84, or 16%.



A CRACKER BAKER in the East discovered excessive overlaps on three cartons. Cutting down to normal overlaps will save 10% of the film used for each package size.

A WESTERN CEREAL PACKAGER shortened the length of Cellophane bags 1½". . . a substantial saving in film and dollars.

A FOOD STORE in California discovered that a luncheon-meat package could be changed to allow for a tuck-in bottom covered by board and held by a tape or rubber band . . . Cellophane savings total 30%.

★ ★ ★

You, of course, are the best judge of how to cut costs and save film in your packaging operation. To assist you in every way possible, your Du Pont representative will be glad to study your particular operation, and recommend whatever economy steps might be taken. E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

DuPont Cellophane

Shows what it protects . . . Protects what it shows

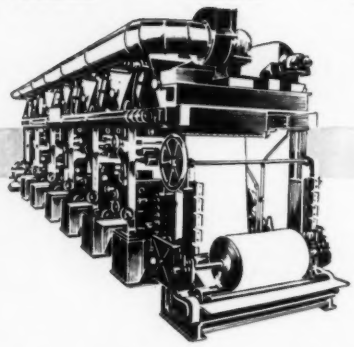
DU PONT

REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

ATF-KLINGROSE

THE GREATEST VALUE IN THE ROTOGRAVURE PRESS FIELD



A Klingrose Rotogravure Press will meet your requirements exactly, because –

- there are both regular, "PA" and "HD" types*
- they are built for web widths from **26" to 72"**
- they print any desired number of colors on one or both sides of the web
- the printed web is delivered in cut sheets, folded signatures, or rewound in rolls
- press speeds up to 1,000 F.P.M.

For the production of – gift wraps... decorative papers... bread and box wraps... drinking cups... frozen food packages... labels... direct advertising... catalogs... package inserts.

ATF-Klingrose Rotogravure Presses print on webs of – cellophane... foil... glassine... tissue... box board... kraft... fancy papers and other materials.

ATF Associate

*"PA" means Pendulum Action Impression.
"HD" means Heavy Duty Two Roller Impression.*

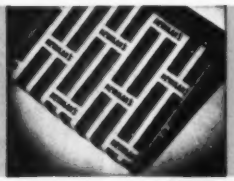
Write for brochure and information on the full line of ATF-Klingrose Rotogravure Presses.

AMERICAN TYPE FOUNDERS *Klingrose Gravure Division*

● 150 TWENTIETH STREET, BROOKLYN 32, NEW YORK

Whatever the PROTECTIVE packaging problem

1

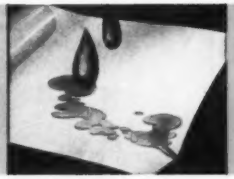


DECORATED PAPERS

Stock or custom design wrapping or box cover papers, printed in up to 3 color by aniline, or 2 colors rotogravure on glassine, greaseproof, M.F. or M.G. papers—plain, treated or embossed. Base papers 15 to 120 lbs. In a full range of 15 standard colors including bleached white.

you'll find the THILCO line provides

2



GLASSINE AND GREASEPROOF PAPERS

All types and grades for end-use conversion. Including bleached white, unbleached, white, amber and special colors — 20 to 40 lb. basis weights. In addition to standard grades, wet strength, opaqued greaseproof, tub-sized greaseproof, plasticized, and super-transparents are available.

the most versatile range of FUNCTIONAL papers

3

SPECIALTY BAGS

A full range, tailor-made to meet any requirement. Including variety, self-opening, odd bags, duplex and special sizes. 25 to 120 lb. basis weights in kraft, duplex-glassine, waxed, asphalt or wax laminated, wet strength treated or embossed. Printed or embossed decorations.

obtainable from any SINGLE SOURCE mill . . .

4

WATER-VAPOR BARRIERS

Full range of krafts — asphalt or wax laminated, coated, saturated, plasticized, creped, crinkled, wet strength treated, foil backed, and reinforced for strength; polyethylene coated or laminated. Printed decorations as desired.

Get complete details on them FIRST!

5

SPECIAL TREATMENTS

A complete range of special treatment papers for specific requirements. These include non-staining laminated wraps, rust inhibitors, mold and weatherproof wrappers, and various combinations of other protective or decorated papers from the Thilco line.

THILMANY PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN

OFFICES IN NEW YORK • CHICAGO
DETROIT • MINNEAPOLIS

THILCO
Functional Papers

Eye-Stopper!

LIKE a stoplight, products packaged in Kaiser Aluminum Foil catch the eye, arrest it, add the punch that spells more sales!

And Kaiser Aluminum Foil *protects* products . . . keeps air out, moisture in . . . assures factory freshness and high quality.

These are the reasons why you'll find Kaiser Aluminum Foil more salable to *your* customers!

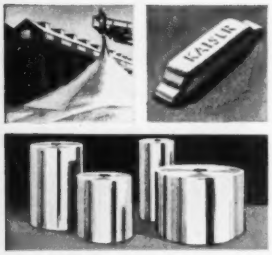
Today, more and more manufacturers and converters are using *Kaiser Aluminum* Foil. For, as a major producer of foil, Kaiser Aluminum has built a reputation for quality and service that is unsurpassed.

. . .

To help meet critical military needs, Kaiser Aluminum has begun a vast expansion program which will greatly increase production of primary aluminum. When conditions permit, this aluminum will be shared by manufacturers of civilian goods.

Meanwhile, if you have any foil problems, call any office listed below.

HIGHEST QUALITY—Personnel with years of operating experience in the aluminum foil industry assure you that the most exacting standards will be met.



DEPENDABLE SUPPLY—Because *all* of Kaiser Aluminum's facilities—from bauxite processing to finished foil—are completely integrated.

PERSONALIZED SERVICE—A close-knit organization assures personalized follow-through on all orders. No red tape to delay your commitments!

INDIVIDUAL ATTENTION—Foil experts work directly with you to tailor Kaiser Aluminum Foil to *your* needs, whatever they are. Call us.

Kaiser Aluminum

Setting the pace . . . through quality and service

SOLD BY KAISER ALUMINUM & CHEMICAL SALES, INC., KAISER BUILDING, OAKLAND 12, CALIFORNIA

OFFICES IN: Atlanta • Boston • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit Houston • Indianapolis • Kansas City • Los Angeles • Milwaukee • Minneapolis • New York Oakland • Philadelphia • Portland, Ore. • Rochester, N. Y. • Seattle • Spokane • St. Louis Wichita • EXPORT OFFICE, OAKLAND, CALIF. • WAREHOUSE DISTRIBUTORS IN PRINCIPAL CITIES

How to package ROSY cheeks

1. obtain the finest raw materials.

2. process them in your unequalled manner.

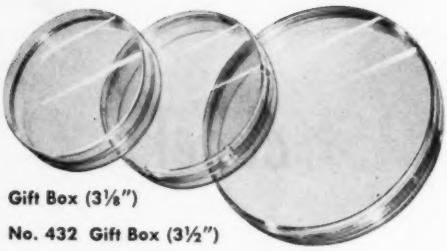
3. package them in H-A glass containers to protect and display them.

4. label them smartly so that consumers will recognize your packaged stepping stones to better health.

H-A food containers are designed for ample and attractive label space

Hazel-Atlas Glass Company

WHEELING, WEST VIRGINIA

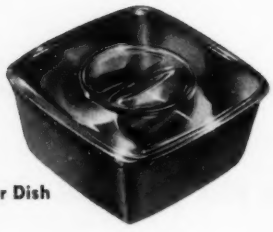


No. 449 Gift Box (3⅛")
No. 432 Gift Box (3½")
No. 445 Gift Box (4⅞")

No. 866
Refrigerator Refresher Dish

Increase Sales ... Package Promotionally

No. 754 Powder Box (3⅜")



No. 867 Refrigerator Refresher Dish

No. 870 Salad Bowl (9½")

Increase sales by packing your product in an attractive re-usable plastic container. Federal has one tailor made for your product.

Get the Federal Story on Promotional Packaging. Find out what others are doing. Federal designs, tools, manufacturers. For complete information, write today to Packaging Division.

No. 872 Gift Container (8")

For all details, see our representative or write for illustrated catalog sheets and price list.

Los Angeles . . . Listed under Federal Tool Corporation in your phone book. Seattle, Louisville, Pittsburgh, Detroit, Atlanta, Minneapolis, Dallas, Kansas City, Representatives in New York, Denver, Emmitsburg, Md., St. Louis, Memphis,

No. 871 Salad Bowl (6")

FEDERAL *Practical* HOUSEWARES

FEDERAL TOOL CORP., 3600 W. PRATT BLVD., CHICAGO 45

Is *Your* product packaged for Action . . . Anywhere?

The Combination Wrap With Lumarith* Transparent Film Protects Many Types of Products

When your product needs protection against drying-out . . . mold-producing moisture . . . gases . . . water . . . greases . . . dirt . . . other contamination . . . heat or cold, then a combination package made with laminations of Lumarith acetate film and other materials will provide that protection.

If your package must be tough and durable . . . prepared for widely varying climatic conditions and rough handling, there again a Lumarith combination will meet your most precise requirements. Sales-appeal, economy, year-long shelf-life—anyone or all of these can be built into your laminated package.

Laminators and convertors of packaging materials are continually developing new combinations to meet specific packaging requirements. For information, write directly to: Celanese Corporation of America, Plastics Division, Dept. **108-B,** 180 Madison Avenue, New York 16. In Canada: Canadian Cellulose Products, Limited, Montreal and Toronto.

THE RIGHT COMBINATION
OPENS THE WORLD TO
YOUR PRODUCT

LUMARITH and GLASSINE
LUMARITH and WOOD
LUMARITH and FABRICS
LUMARITH and METAL FOIL
LUMARITH and KRAFT PAPER

Celanese*

*Reg. U. S. Pat. Off.

PLASTICS

Leading manufacturers choose ALCOA TUBES

Take a product like Mollé* Shaving Cream. Wrap it up in a bright attractive package like an Alcoa Aluminum Tube. Result: a sales leader.

Let's discuss your packaging problem. We pioneered and make only aluminum tubes, and our research laboratory works continually to make them the best you can buy. Our laboratory and designers are at your service. Call any one of our 55 sales offices. You'll find the number under "aluminum" in the yellow section of your phone book, or write ALUMINUM COMPANY OF AMERICA, 1751B Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA *First in Aluminum Tubes*

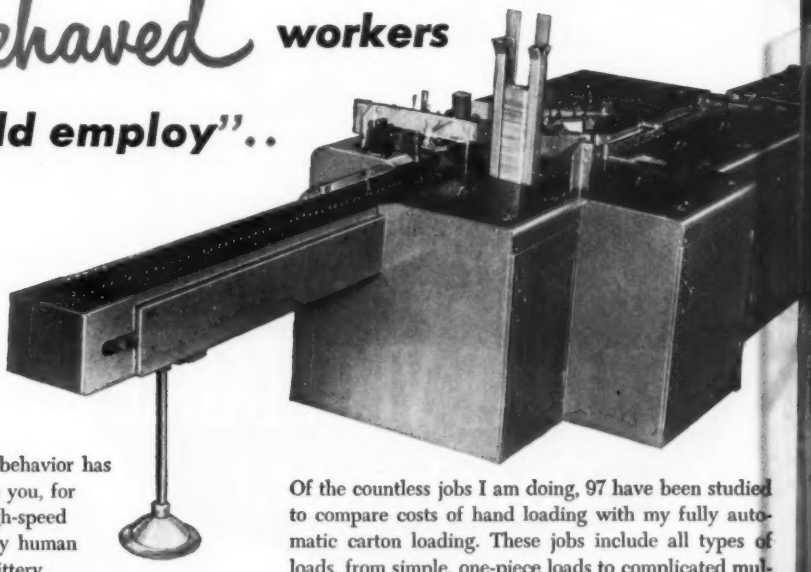
*T. M. Reg. Mollé Brushless Shaving Cream is a product of Centaur-Caldwell Division of Sterling Drug, Inc.

no HANGOVERS

no NERVES

no TEMPERAMENT

"I'm one of the Best behaved workers you could employ"..



My continuous exemplary behavior has a dollars-and-cents value to you, for I can maintain steady, high-speed production even though my human associates may be shaky, jittery, fagged-out or fogged-up.

A steadying influence — that's what I am.

In truest sense, I am "organized" labor — also specialized. But I'm organized for "no strikes, no lay-offs, no work-stoppages, no slow-downs" — in short, **FULL PRODUCTION** all the time.

Widely experienced on every type of carton-loading, I require minimum supervision and no job training. I work smoothly with inexperienced help.

Of the countless jobs I am doing, 97 have been studied to compare costs of hand loading with my fully automatic carton loading. These jobs include all types of loads, from simple, one-piece loads to complicated multiple-piece loads.

These facts will be interesting and valuable to any business troubled by the "human factor" in carton loading.

Dependably yours,

Jones fully automatic constant motion Cartoning Machine

This booklet "97 Cost Comparisons" is FREE on request. Ask for your copy today.

R. A. JONES & COMPANY, INC.

Cartoning Machines — Soap Presses

P. O. BOX 2055 · CINCINNATI, OHIO

West Carrollton GENUINE VEGETABLE Parchment

Is Tasteless, Too!

The ideal wrapper for all moist foods is West Carrollton Genuine Vegetable Parchment. It is ODORLESS and GREASE RESISTANT, as well as TASTELESS. It is STRONG, too, and *keeps* its strength, wet or dry. You can get it printed in one or more attractive colors (special inks) right to your specifications. Complete facilities in our own plant.

WEST CARROLLTON PARCHMENT COMPANY
WEST CARROLLTON, OHIO

DRY WAXED PARCHMENT
•
BUTTER WRAPPERS
•
BUTTER TUB LINERS & CIRCLES
•
BUTTER BOX LINERS
•
LARD CARTON LINERS
•
MILK & ICE CREAM CAN TOPS
•
SLICED BACON WRAPPERS
•
OLEOMARGARINE WRAPPERS
•
VEGETABLE SHORTENING CARTON LINERS
•
CELERY WRAPPERS
•
FISH FILLET WRAPPERS & INSERTS
•
MEAT WRAPPERS
•
LINERS FOR MEAT TINS
•
POULTRY WRAPPERS
•
CHEESE WRAPPERS
•
TAMALE WRAPPERS
•
MANY OTHERS

For over 50 years

discriminating manufacturers

have been building sales

of products which are packaged

in Rowell Containers.

Expert craftsmanship.

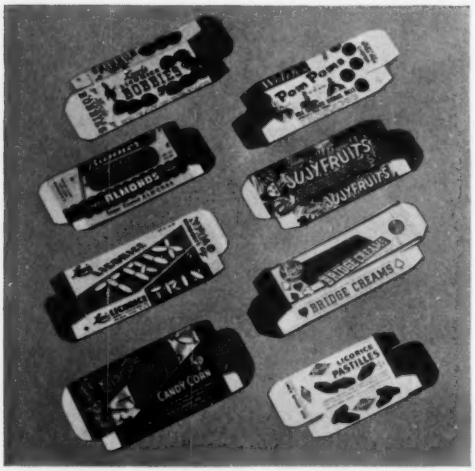
Magnificent color printing.

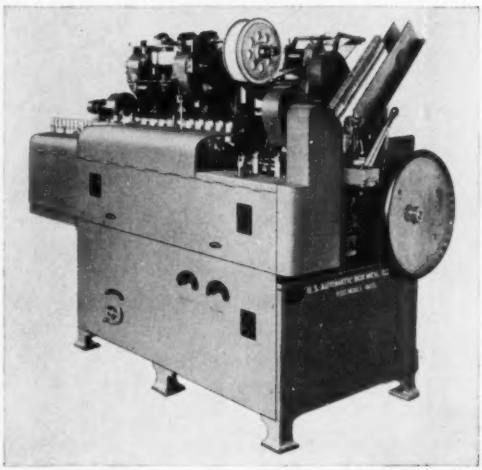
Prompt deliveries.

E. N. Rowell Co. Inc.
Manufacturers of Fine Paper Boxes
BATAVIA, N.Y.

Eliminate CHANGE-OVER TIME

The Versatile C-10-CC Candy Filler Packs all these types of candy without adjustment





Candy manufacturers and distributors who package a wide variety of hard, semisoft or easily marred candies will find the Model C-10-CC Volumetric Filler ideal for their multiple requirements. It will handle all their products without adjustment when package size and volume are kept uniform. The Model C-10-CC automatically extracts the flat carton, opens it, tucks bottom flaps, cuts, forms and inserts liner into the carton and then volume fills the correct amount of candy. When desired, the liner may be omitted. Final operation on the C-10-CC folds the top of the liner closed and tucks and closes the top flaps of the carton. An automatic check weigher rejects any underweight packages. Only one operator is required to supervise the machine, and speeds of 60 filled cartons per minute are available.

Check the many varieties of candy packages shown and you'll see how the C-10-CC can fill your packaging problem. Write for complete details today.

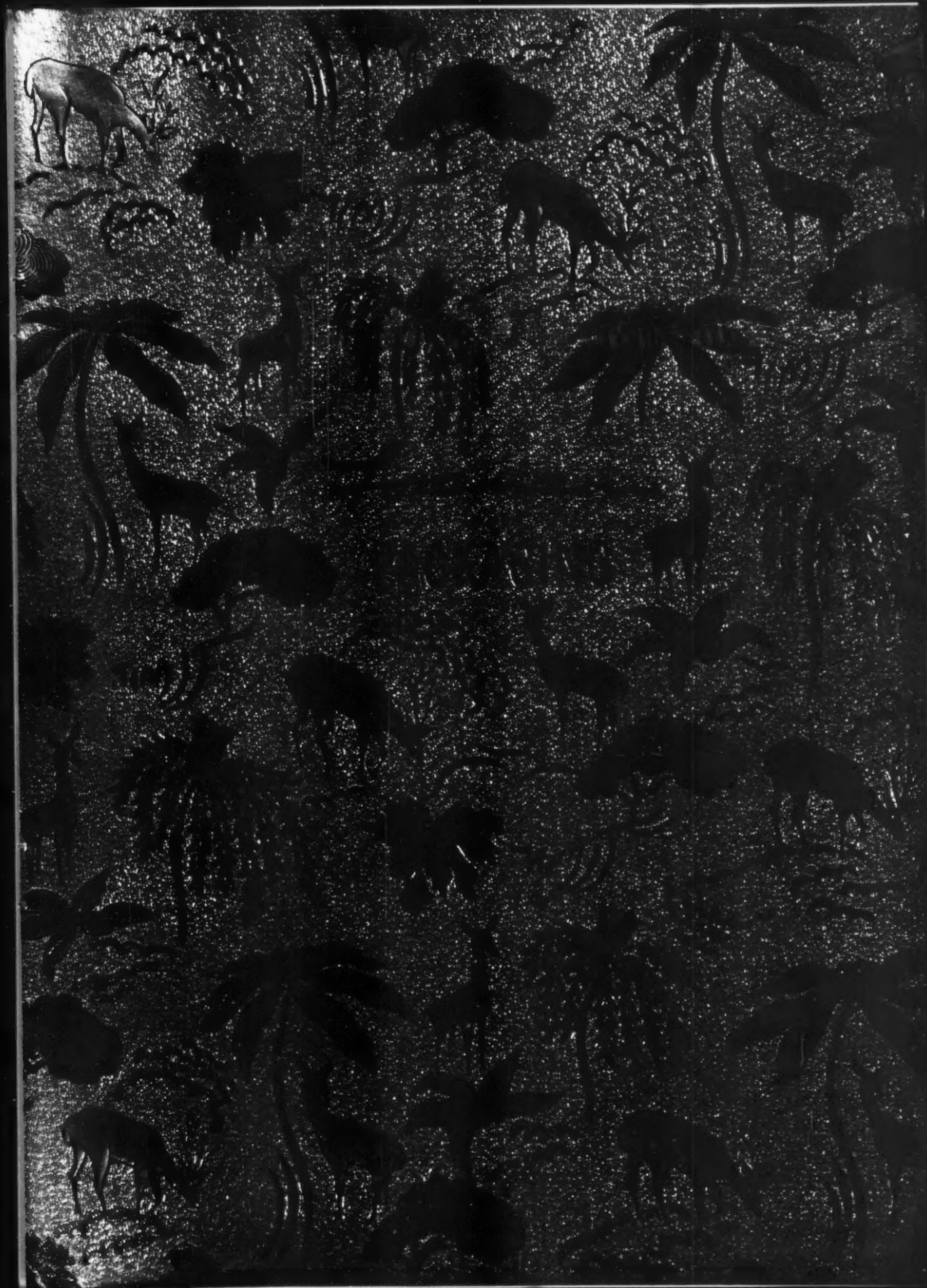
US NET & GROSS WEIGHING ★ PACKAGE FORMING & FILLING ★ CARTON SEALING, LINING, WRAPPING ★ BOX MAKING

AUTOMATIC BOX MACHINERY CO., INC.

Owning and Operating NATIONAL PACKAGING MACHINERY CO. ★ CARTONING MACHINERY CORP.

122 ARBORETUM ROAD, ROSLINDALE, BOSTON 31, MASS.

Branch Offices: New York ★ Cleveland ★ Chicago ★ San Francisco (Mailler Searles, Inc.)



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We are proud to follow
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(CHARLES H. FORSMAN)
Pioneer in the Art of Fine Packaging

COLOR PRINTING
DETAILED EMBOSSING
IDEAS
FINE DESIGN

OUR EXPERIENCED STAFF OF CREATIVE ARTISTS AND CRAFTSMEN IS AVAILABLE FOR A LIMITED NUMBER OF PACKAGE MANUFACTURERS WHO DEMAND PERFECTION IN PRODUCTION OF PACKAGE DESIGN

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318 WEST 39TH STREET
NEW YORK 18, NEW YORK

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PRESIDENT AND GENERAL MANAGER

The Standard of Fine Color Printing Since 1899

Packaging design goes places with

SYLVANIA CELLOPHANE

New, more salesworthy packaging ideas are easier to come by when you keep economical Sylvania Cellophane in mind. This transparent film allows almost complete freedom in working out designs.

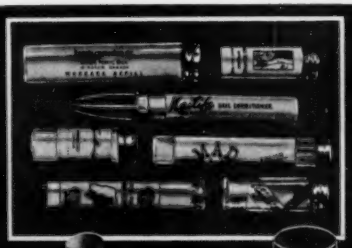
It comes with controlled moisture protection — in different gauges. In hand-wrapping or on high speed equipment it heat seals strongly and quickly. It can be economically printed on fast rotary presses with lustrous color effects.

Sylvania is always ready to assist you in solving your packaging problems. Talk them over with your Sylvania representative or write to us mentioning the specific application in which you are interested. Address: Market Development, Department MP-2.

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa. *Plant:* Fredericksburg, Va.



COSMETICS: Lipstick Refills, Eyebrow Pencils, Powders, Brushes.

DRUGS & PHARMACEUTICALS: Surgical Powders, Pills, Tablets, Powders, Capsules, Lozenges.

DRUG SUNDRIES: Styptic Pencils, Dental Floss, Tongue Depressors, Sanitary Goods, First Aids, Applicators, Travel Aids, Urine Specimens, Measuring Cups, Nail Files, Orange Sticks, Surgical Goods, Instrument Parts, Manicure Instruments.

Clearsite PLASTIC SELLING CONTAINERS

Package These DRUGS & PHARMACEUTICALS, COSMETICS and DRUG SUNDRIES in CLEARSITE:

Surgical Powders • Pills • Tablets • Powders • Capsules • Lozenges • Lipstick Refills • Eyebrow Pencils • Powders • Brushes • Styptic Pencils • Dental Floss • Tongue Depressors • Sanitary Goods • First Aids • Applicators • Travel Aids • Urine Specimens • Measuring Cups • Nail Files • Orange Sticks • Surgical Goods • Instrument Parts • Manicure Instruments.

Endow your products with these sales advantages of CLEARSITE:

- **Shatterproof**
- **Flexible or Rigid**
- **Dimensionally Uniform**
- **Permanently Printed**
- **Featherlight (¼ the weight of glass)**
- **Clear or Opaque in All Colors**
- **Odorless and Tasteless**

CLEARSITE definitely enhances product value; it looks expensive but really isn't.

In the Drug and Cosmetics Fields...

Inspire the Buyer

Make Your Products Sing Out for Attention. And They'll Be Singled Out in Bright, Light, Lustrous CLEARSITE when you use the Modern, PLASTIC Selling Container that Makes Them Want to Buy.

Regardless of whether or not your products are well-advertised, they must present a stand-out display at point-of-sale. The container must strongly imply plus-value. By using CLEARSITE Containers, you package handsomely, distinctively, functionally, protectively. And, because CLEARSITE Plastic Containers offer infinite variety to work with—in size, form, color—you make your container yours alone. Your package is the embodiment of your position in the field and reflects the high quality of the contents. Eventually it will be utilized as a Re-Use container.

Send us samples of your products. We'll return each one in a CLEARSITE Container. Or, write for data-packed literature that details the uses and advantages of CLEARSITE *Plastic* Selling Containers.

CLEARSITE is made only by

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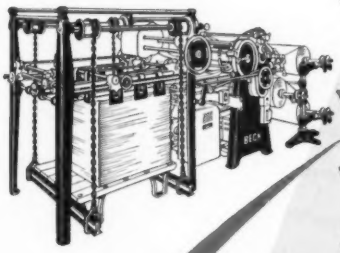
America's #1 Source for Plastic Containers • Est. 1919

"Invaluable for our work... we would be lost without them"

... says the owner of 3 Beck Sheeters, who adds ...



- "(Beck Sheeters) have enabled us to fill many special orders we would have been unable to handle."
- "We like their versatility in handling all kinds of stock from cellophane to heavy papers."
- "It takes very little time to change from one sheet size to another."
- "In spite of day in, day out operation . . . very little repair work over the years."

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BECK

It's time you traded all your sheeting problems for fast, accurate BECK AUTOMATIC ROLL SHEET CUTTER performance that's versatile and profitable too! In the SHEETER Catalog, you'll find the details on how a BECK SHEETER cuts, counts and stacks any of your materials that come in rolls. A short note brings your Catalog in a hurry.

CHARLES BECK MACHINE CORPORATION
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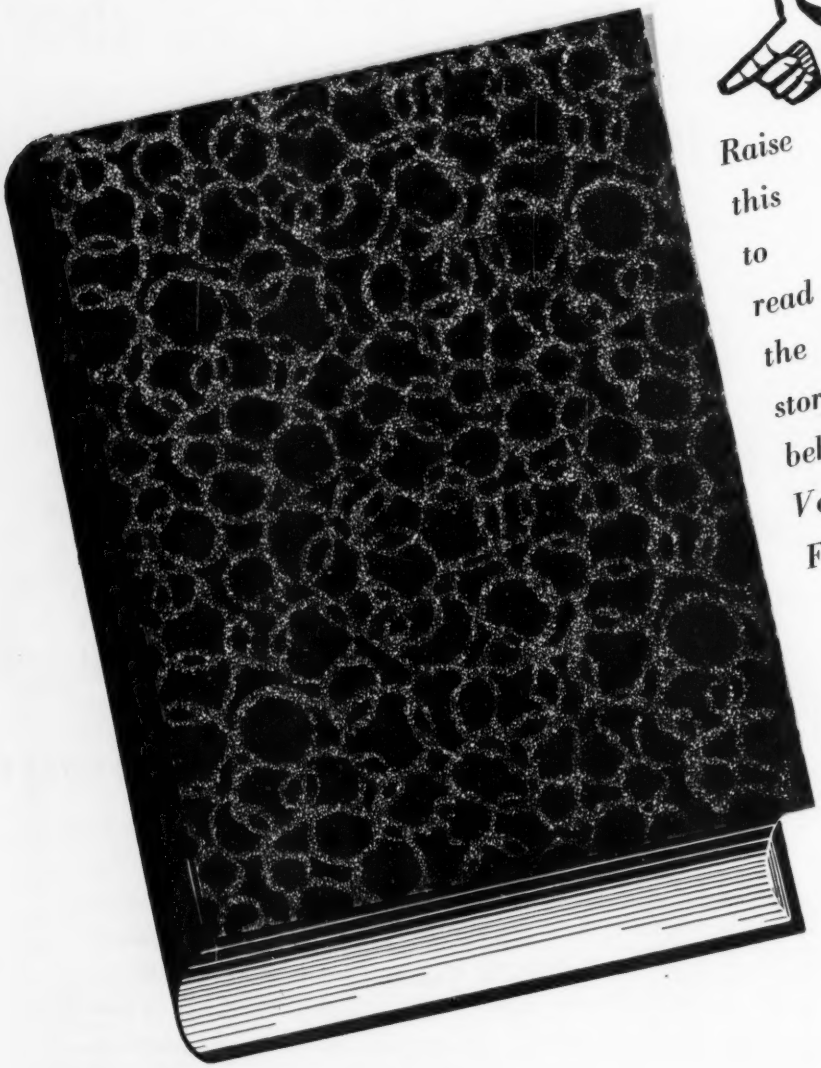
Venesta Foil Facts — No. 1



Raise this to read the story behind Venesta Foil

VENESTA *Aluminium Foil*

VENESTA LIMITED

VINTRY HOUSE, QUEEN STREET PLACE, LONDON, E.C.4

Telephone: CENtral 3060

VENESTA PRODUCT

STOKESWRAP

for LOW UNIT COST

Model BS Machine equipped with auger feed for powdered products.

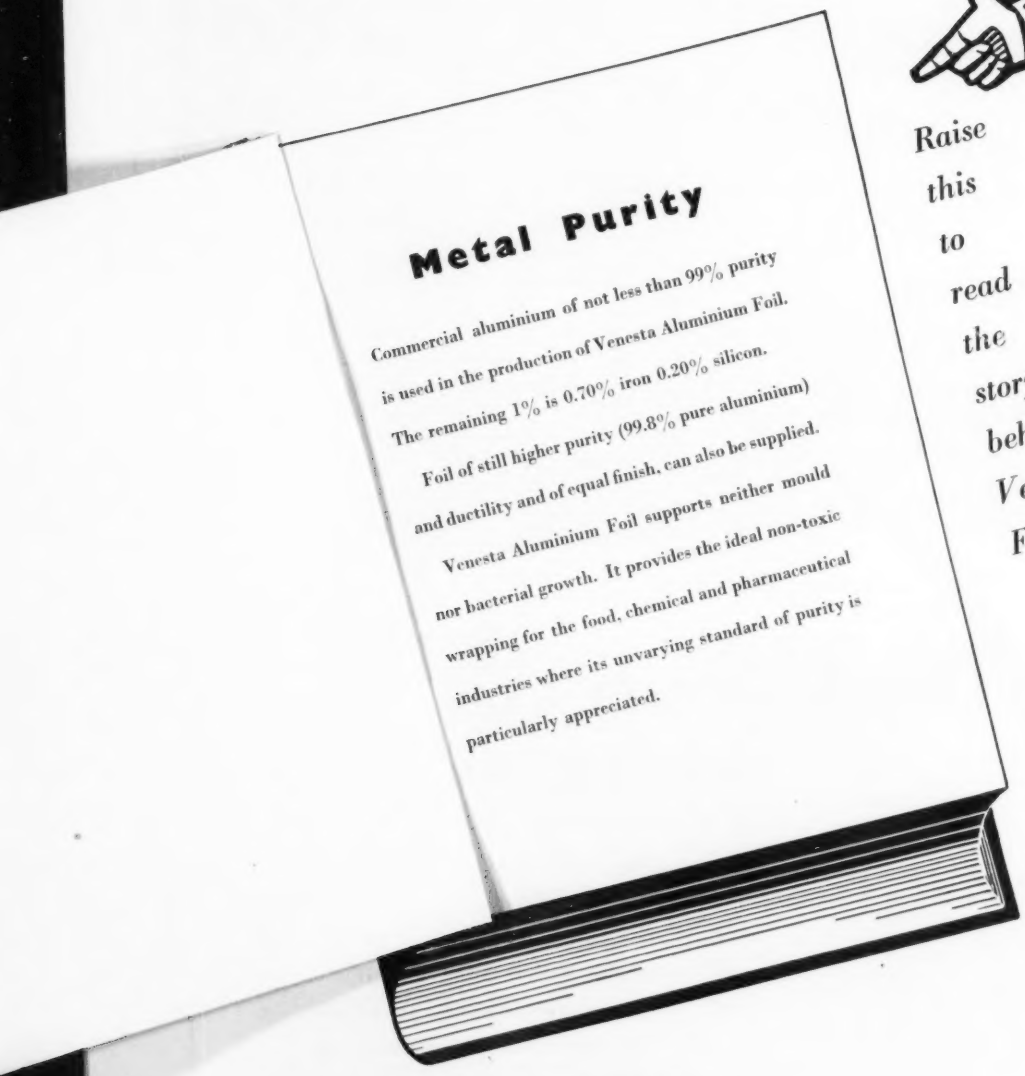
Stokeswrap helps Eastman Kodak to present fine products in neat, attractive, easy-to-use packages. Point of sales appeal is followed through with Stokeswrap's neat, protective foil package with just the right amount in weight. Stokeswrap forms, fills and seals the package at a low cost per unit.

The Stokeswrap package machine forms, fills and seals the package, taking the printed or unprinted web from the roll — at speeds from 50 to 120 per minute, depending on size of package, kind of web and nature of material.

Exclusive West Coast Distributor:
Anderson-Barngrover Division of FMC
San Jose 5, California

STOKES & SMITH Co.
PACKAGING MACHINERY — PAPER BOX MACHINERY
fmc
Subsidiary of Food Machinery and Chemical Corporation
FRANKFORD • PHILADELPHIA 24 • PA.

Venesta Foil Facts — No. 1

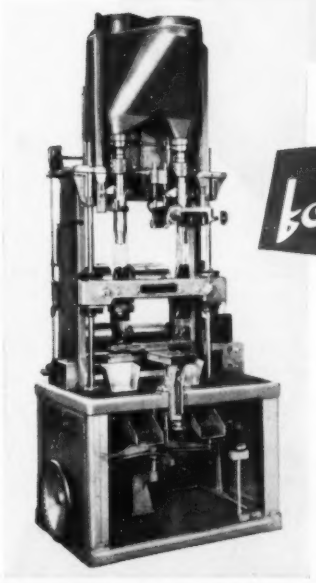

Metal Purity
Commercial aluminium of not less than 99% purity is used in the production of Venesta Aluminium Foil. The remaining 1% is 0.70% iron 0.20% silicon.
Foil of still higher purity (99.8% pure aluminium) and ductility and of equal finish, can also be supplied.
Venesta Aluminium Foil supports neither mould nor bacterial growth. It provides the ideal non-toxic wrapping for the food, chemical and pharmaceutical industries where its unvarying standard of purity is particularly appreciated.

Raise this to read the story behind Venesta Foil

VENESTA *Aluminium Foil*

VENESTA LIMITED
VINTRY HOUSE, QUEEN STREET PLACE, LONDON, E.C.4
Telephone: CENtral 3060

VENESTA PRODUCT



Model BS Machine equipped with auger feed for powdered products.

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Exclusive West Coast Distributor:
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San Jose 5, California

STOKES & SMITH Co
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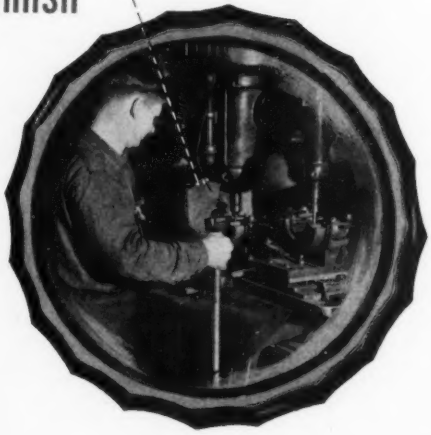
The mark of accurate glass finish

One of the many reasons Armstrong glass containers perform well on any filling line is the accuracy of their finish. A pioneer in perfecting glass finish, Armstrong offers you containers unequalled for sure safe seal. Ask your Armstrong representative for details or write to Armstrong Cork Company, Glass and Closure Division, 2302 Prince Street, Lancaster, Pennsylvania.



ARMSTRONG'S GLASS

HEADACHES are TABOO

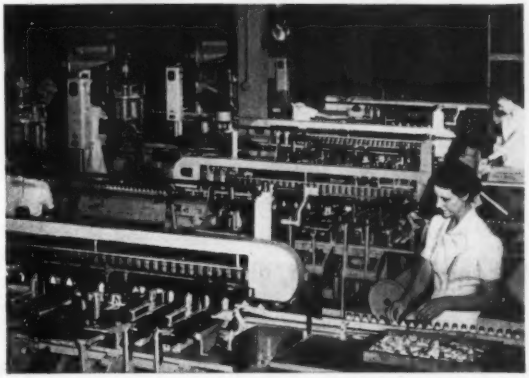
when BAYER aspirin and PNEUMATIC machines go to work

WHEN a headache or pain plagues you, chances are you chase it—and fast—with famous Bayer Aspirin. You and millions of others! That means a big volume packaging job for STERLING DRUG, INC. who make and market this popular remedy.

Like other leaders in the pharmaceutical field STERLING avoids annoying and expensive production headaches by capping and labeling with Pneumatic machines. Day in and day out their Pneumatic equipment does the job with smooth running, unfaltering efficiency. You'll start to save money, too, from the very first day you employ Pneumatic machines to perform at "lower cost per container" in your plant.

★ ★ ★

PNEUMATIC SCALE CORP., LTD., 82 Newport Ave., Quincy 71, Mass. *Branch Offices: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.*



Installation of Pneumatic Labeling and Capping equipment at The Bayer Co., Division of Sterling Drug, Inc., Trenton, New Jersey.

PNEUMATIC

PACKAGING AND BOTTLING MACHINERY

Visible Quality in the Package
Can Reflect the Invisible Quality of the Product

Leading Manufacturers of Pharmaceuticals

Recognizing that fact, give Preference to

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CUSTOM MADE FOR EVERY ORDER • CONTROLLED COLOR MATCHING
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A masterpiece of early Egyptian art is this bust of Queen Nofretete . . . among the earliest to skillfully use cosmetics.

A pioneer in the introduction of tube-packaged cosmetics, Sheffield today produces collapsible tubes of brilliant finish and design for virtually any product of soft or creamy consistency. For tubes that *better* protect and *better* promote *your* product . . . for tubes produced by master craftsmen . . . order Sheffield Process collapsible tubes.

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increased sales–

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Every quality available for your individual product.
Natural foil wrapping or laminated with
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SHOW YOUR PRODUCT

Transparent boxes — all sizes, all shapes produced by one of Pennsylvania's largest manufacturers of rigid transparent (acetate) containers.

Set-up paper boxes — fine hand-made and high-speed machine wrapped — assure a complete packaging service.

Let us help increase your sales —
our designing department is at your service.

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COMPANY

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The NEW mailing envelope that gives proven protection

ANDREWS ARMOR-EDGE MAILERS MINIMIZE MAIL DAMAGE LOSSES

8 plys of Heavy Glue-reinforced Kraft paper along the Vital Edges

for magazines · for ad mats for booklets and reports · for flat packages of every sort

The present limited supply of paper may prevent us from serving you immediately. However all inquiries will be given attention in order of their receipt.

If protection for your mailings of flat printed matter or merchandise is what you're after, Andrews Armor-Edge Mailers will do the trick . . . at a lower cost and with less handling than ordinary heavy protective wrapping entails.

Extensive use by companies doing large volume mailings reveals that Armor-Edge Mailers almost entirely eliminate complaints about mail being received in damaged condition.

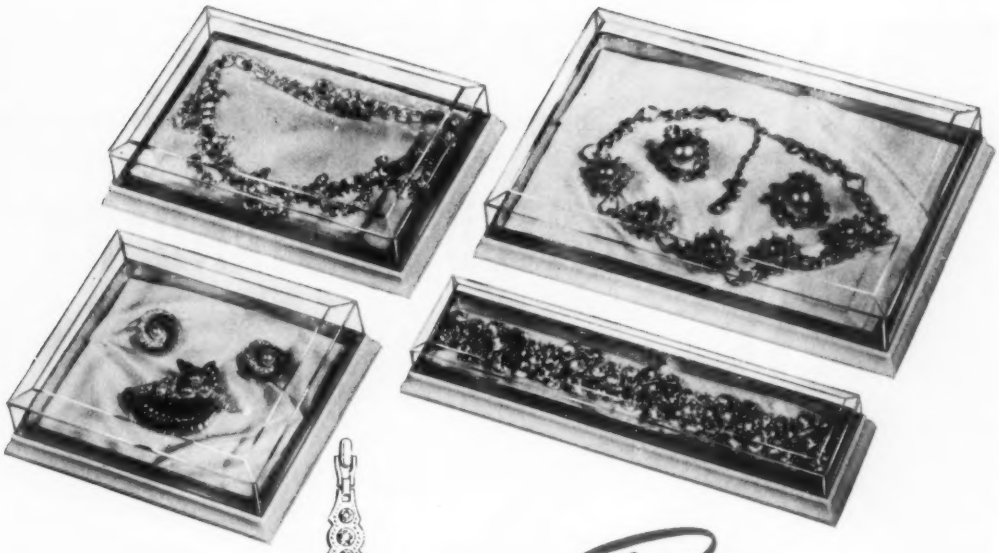
Armor-Edge Mailers are not stock items. To give proper protection, sizes and flap styles must be designed to order. Why not ask for samples today. Then you'll be able to evaluate the merits of Andrews Armor-Edge Mailers yourself.

P. L. ANDREWS CORP.

1328 Broadway New York, N. Y.

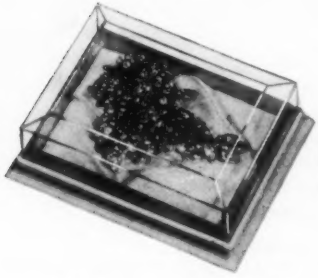
• PATENT PENDING

Manufacturers of a complete envelope line for over 30 years



YOUR BEST LOOKS *Better*

when packaged in Koppers Polystyrene



A complete series of jewelry display boxes—five different sizes—is molded from Koppers Polystyrene 31. Manufacturer: C. & M Manufacturing Co., Providence, R. I. Molder: C & M Plastic Co., Providence.

● Merchandisers say that a well-displayed item is half sold. No wonder retailers are so enthusiastic about display boxes like this series for jewelry made by C & M Manufacturing Company, Providence, R. I.

Covers of the boxes are molded from crystal-clear Koppers Polystyrene 31, combining maximum visibility with necessary protection for the product. The tray is ivory Koppers Polystyrene 31, which forms a background that dramatizes almost any piece of jewelry.

For all its attractiveness, Koppers Polystyrene is a low-cost packaging material. Its original cost is low and its light weight yields more pieces per pound than similar materials.

No matter what type of packages you design and manufacture, it will pay you to investigate fully the economy and moldability of Koppers Polystyrene.

KOPPERS

Koppers *Perfected* Plastics

Koppers Polystyrene has made Many Products Better and Many Better Products Possible.

KOPPERS COMPANY, INC., Chemical Division, PITTSBURGH 19, PA.
SALES OFFICES: NEW YORK · BOSTON · PHILADELPHIA · CHICAGO · DETROIT · LOS ANGELES

It pays to order

Cellophane that's

"PRINTED BY STANDARD"

. . . it pays in superior printing
(because Standard has developed exclusive ink formulations and printing techniques that yield unbeatable results)

. . . it pays in better designs
(because Standard operates a complete art service devoted solely to designing wraps that truly add to your product's salability)

. . . it pays to order cellophane that's "Printed by Standard."

COLL[illegible]CRAFT

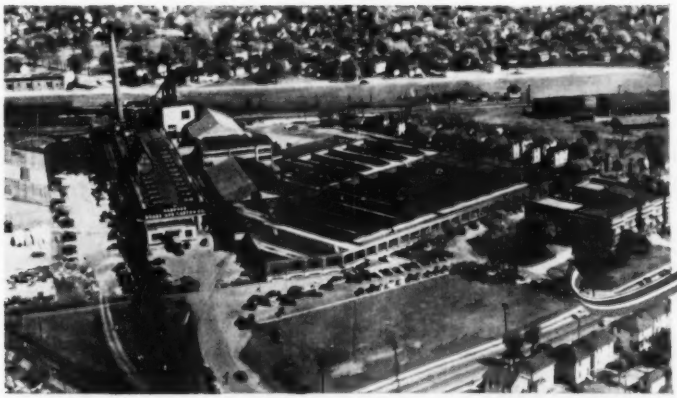
Standard

printing company

PRINTERS OF CELLOPHANE, ACETATE and GLASSINE SINCE 1936

COLUMBUS, GEORGIA

Sales Offices: Dallas, Texas—Charlotte, N. C.—Jackson, Miss.



Gardner's Headquarters Plant in Middletown, Ohio

Where else could it happen...but in America?

Where else could a group of men start with limited means and build an idea and an ideal into a business of world-wide reputation . . . in a short half-century? The pictures you see on this page are more than that of an important company in an important industry. They are the most convincing kind of evidence (a lot more convincing to the world than preachments or propaganda) that the American way is the best way.

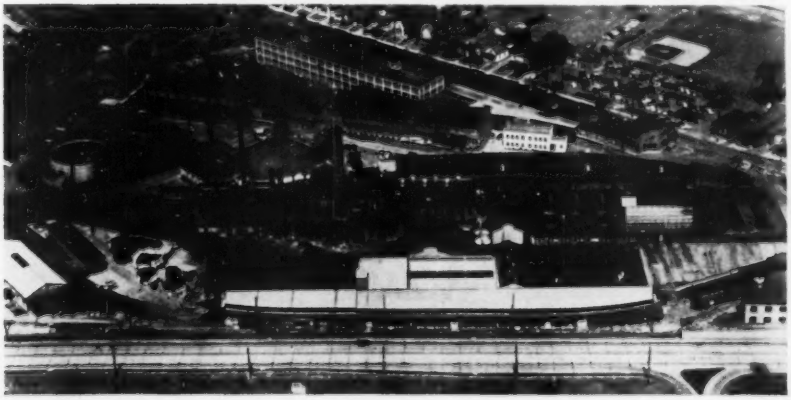
Gardner's Mill No. 1 in Middletown, Ohio

THE GARDNER BOARD AND CARTON CO.

408 Charles Street

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

Sales Offices in Boston, Chicago, Cleveland, New York, Philadelphia, Pittsburgh, St. Louis.

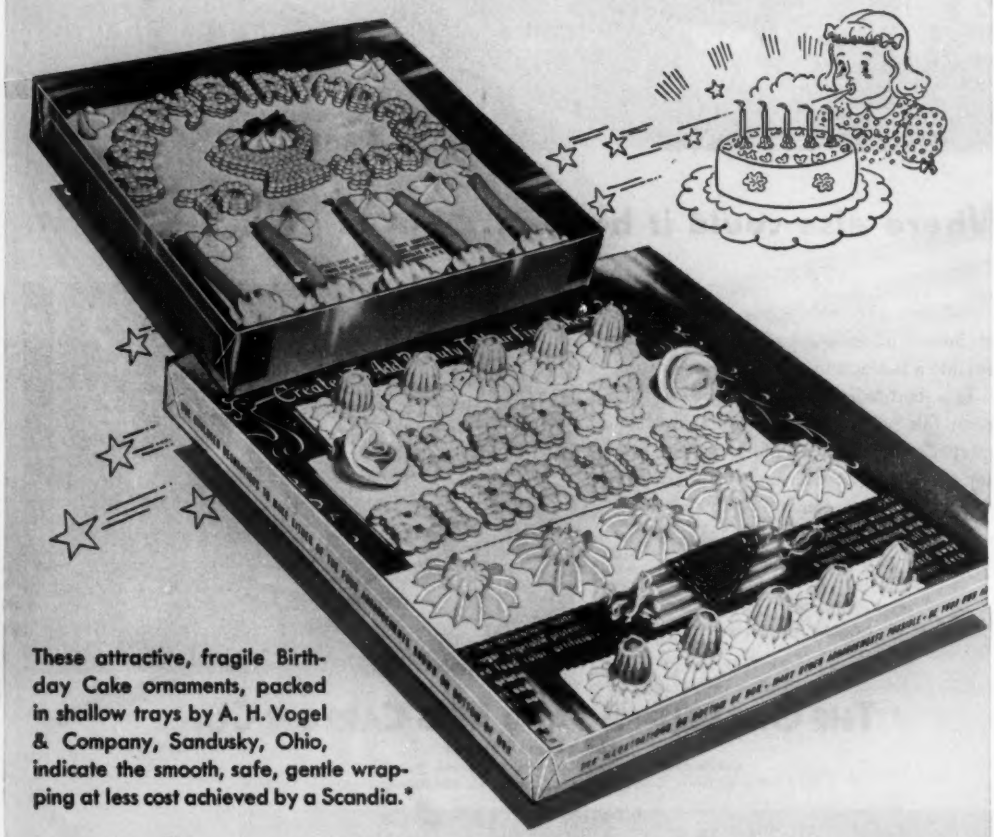


CUTS COSTS . . . CUTS TIME on LCL and LTL orders

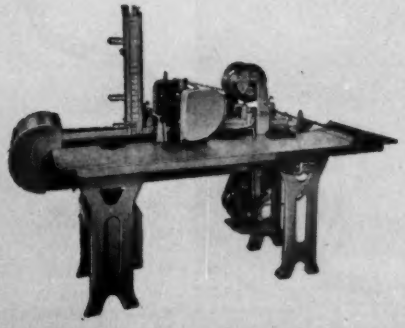
Gardner's Board Mill & Carton Plant in Lockland, Ohio

How to get Excellent Display Packaging

* Real BUY-APPEAL at LESS Cost!



These attractive, fragile Birthday Cake ornaments, packed in shallow trays by A. H. Vogel & Company, Sandusky, Ohio, indicate the smooth, safe, gentle wrapping at less cost achieved by a Scandia.*



Write today for details of Scandia's co-operative rental program on new package-development.

*Manufactured under Bronander patents.

Scandia

MANUFACTURING COMPANY

501 Belleville Turnpike

NORTH ARLINGTON, NEW JERSEY

What it takes to deliver

Military-Specification

approved PACKAGING

Only converters equipped with the most efficient and modern automatic equipment — combined with the experience and ability to produce to the most exacting specifications — should be considered in your search of a fully dependable source for GREASEPROOF, WATERPROOF, or MOISTURE-VAPOR PROOF packaging protection.

VANANT technicians know from long and diversified experience exactly *what it takes* to meet your contract packaging requirements with the fullest assurance of uniform *quality* and *on-time deliveries.*

Ask your nearest VANANT Field Representative for the latest official interpretations covering AN - JAN - or MIL specifications.

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—Engineered Packaging

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Plant: Tomah, Wisconsin

Represented by:

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Vanant Products, Inc.
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Los Angeles 38, Calif.

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Standard Parts & Equipment Co.
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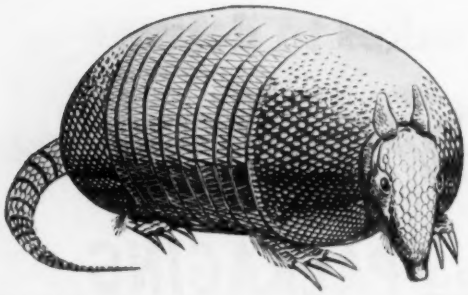
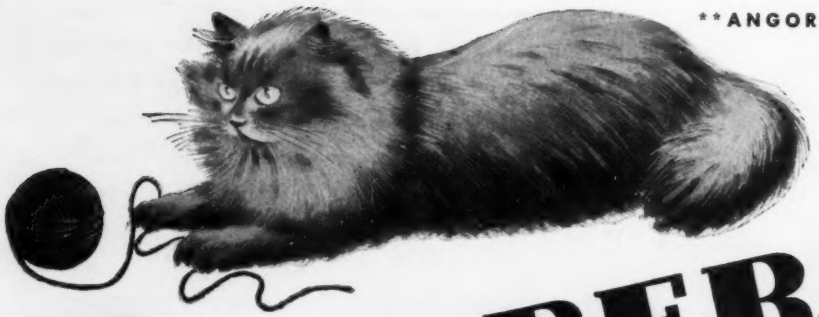
Fort Worth, Texas



*ARMADILLO

PROTECTION AND Beauty



**ANGORA CAT

KVP PAPERS For The FOOD INDUSTRY

All the skill you use in selecting and blending and processing foodstuffs is fully protected to the family table when the right KVP paper is chosen for the job at hand. And where beauty and design can add to sales appeal, KVP artists and printers are past masters at using color to set cash registers ringing. Are you taking full advantage, in your present package, of these KVP features of protection and beauty? It costs nothing to write for recommendations for packaging improvements.

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Cereal

MEAT
Packing - Locker
Retail

DAIRY
Butter - Cream - Cheese
Ice Cream - Milk

FISH - FRUIT - FROZEN FOODS
POULTRY - SHORTENING
VEGETABLE

* A disagreeable-looking member of the order *Edentata*. Lives in burrows in the Southwest where his bony armor plate protects him from reptiles and other enemies.

** One of the most beautiful representatives of *felis domestica*. His splendid coat suggests the long, silky hair of the Angora goat whose tresses usually wind up in textiles.

Kalamazoo Vegetable Parchment Company

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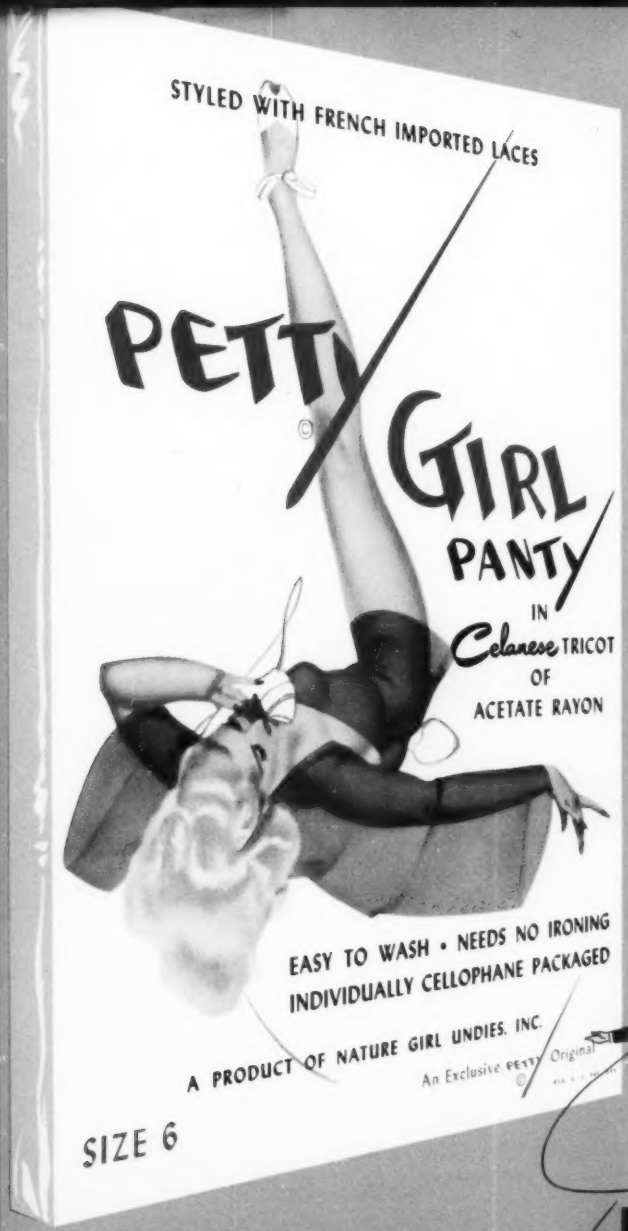
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Modern packaging

SUBSTITUTION

WE CAN HAVE A LOT OF BUTTER ALONG WITH OUR GUNS IF THE LESSONS OF WORLD WAR II ARE KEPT IN MIND AS THE PRESENT SITUATION DEVELOPS

Substitution is a distasteful word in packaging as elsewhere. Implying, as it does, the use of something less than the most effective material for the application at hand, it is contrary to all that American packagers have learned. But, with the net of restrictions on civilian use of strategic materials drawing ever tighter, the time has come when all the possibilities of substitution must be calmly and carefully considered.

One of America's great assets in the present emergency is its wealth of recent experience along this very line. During World War II the ability of American manufacturers to improvise and substitute amazed the world, and so far as packaging is concerned it made possible the maintenance of a civilian economy at a very high level in the face of the greatest military production effort in history. We may not have had all the butter we wanted at all times, and it may not have been served up in the manner to which we were accustomed. But, in retrospect, it is plain that we had a lot of butter.

With these hard-earned lessons fresh in mind, there is no reason to think that American packaging will fail this time.

Beyond what is already known about certain shortages and restrictions, this article will not attempt to predict where shortages will hit, nor what specific products will be first affected. It is clear from the experience of last time that every shortage has a mushrooming effect—creating strains in new and unexpected quarters as packagers rush from one material to another, whichever, at the moment, appears to be more plentiful.

It is the purpose of this article to review some of the effective substitute packagings for civilian goods that were developed and used in World War II, in the expectation that all of our readers will, sooner or later, find themselves in similar if not identical situations.

It should be clearly understood that MODERN PACKAGING is not recommending hasty adoption of substitutes; it is not recommending any one substitute against another. Only time will reveal the best course. But our counsel to all packagers is to keep aware of substi-

REPLACEMENT RESEARCH for metal packaging of cocoa, baking powder and Postum was started by General Foods as early as 1934. Such studies showed that beyond a metal-end fibre can, there are three further possibilities: (1) an all-fibre can, (2) a bag in carton and (3) a paper bag.

FAMILIAR PRODUCTS IN PAPER

Remember when motor oil came in paper containers, tooth powder in paper cans, shortening in paper ice-cream containers, aspirin unit packed in sealed cellophane envelopes enclosed in printed paper catchbooks? The above photo of World War II packages gives an impressive panorama of how American manufacturers solved the problem of metal shortages.

tution possibilities; keep flexible, and be ready to move fast when circumstances demand it.

Because metal was the material most-substituted-for in the last war, and because it is again the biggest and most pressing shortage, many of the World War II examples that follow deal with substitutes for metal. But there is also information bearing on situations that are markedly different now from what they were in 1942—the fact that plastics this time offer no room for substitution; that rubber, which was instantly cut off before, is now relatively available; that paper and glass supplies, vastly expanded in the last eight years, offer good possibilities of at least temporarily relieving the strain on other materials.

Also a favorable condition today is the fact that the very recent World War II experience has taught packagers to look at the materials situation realistically. This time there will not be many, as there were eight years ago, waiting for miracle materials to come out of the laboratories. Too many learned that there aren't any miracle materials—that every packaging supply must be processed from some basic animal, vegetable or mineral substance, every one of which becomes scarce when demand is unprecedented.

Basic change-overs

An examination of the thousands of change-overs during World War II shows that virtually all of them can be classified into about a dozen basic groups:

1. From rigid metal packages to all-paper packages.
2. From rigid metal packages to paper packages with metal ends.
3. From rigid metal packages to glass containers with metal closures.
4. From rigid metal packages to glass containers with non-metallic closures: plastics, paper or wood.
5. From metal-end paper packages to all-paper packages.
6. From flexible aluminum foil packages to all-paper packages.
7. From molded plastic containers to glass containers.
8. From rigid transparent plastic

Successful switches

PHOTO COURTESY OWENS-ILLINOIS GLASS CO.

THREE ALTERNATES FOR COFFEE CANS

These World War II packages show how the packaging of coffee can be switched from a metal vacuum can to (1) the vacuum-sealed glass jar, (2) a carton with a protective paper liner and (3) a protective paper bag.

packages to the paper packages.

9. From plastic film packages to all-paper packages.
10. From cellophane packages to all-paper packages.
11. From textile bags to paper bags and the various laminated combinations of paper.
12. From nailed-wooden shipping cases to all-paper shippers.

From this it is not difficult to deduce that glass and paper are the bulwarks of the substitutes. The Technical Assn. of the Pulp and Paper Industry once estimated a world war would end in 60 days if all the pulp and paper mills suddenly stopped operating to produce the ordinary 60-day supply usually on hand for carrying out the functions of world affairs. Fortunately, however, in the use of paper, the packager has an almost limitless selection of forms, depending on the product to be packaged and the performance that is necessary.

Papers include sulphite, kraft, parchment, glassines, used in single thicknesses or combined in several plies—with or without adhesives, special coatings, etc.—made into wraps, pouches, bags and labels of all kinds. Paper includes all types of paperboards whether reclaimed pulp, chip, or solid fibre, made into folding cartons, set-up boxes, corrugated and fibre shipping containers, spiral and convolutely wound cans, cones, cylinders or drums, used in single or multiple thicknesses and in hundreds of combinations, using special liners, bags-in-cartons, etc.

To list all the products for which one or more combinations of the above may be used would be impossible. Each manufacturer must study the package substitutes for his own particular products. He has available his company's experience during the last war. He can find out what proved to be the best replacements. He should be prepared for a quick change-over to whatever is the most feasible material at hand in accordance with supply-situation trends.

Make replacement studies

Some foresighted companies began replacement studies even before the beginning of the last war. Charles A. Southwick, Jr., now Technical Editor of MODERN PACKAGING, who for nearly a decade was director of packaging research for General Foods, started a research project for replacing metal as far back as 1934. This study showed, for instance, that products such as cocoa, baking powder and Postum might be packaged right down to the barest essentials if necessary and still be distributed in consumer units. In fact the research showed four possible alternates for metal: (1) a protective laminated fibre and glassine container with metal ends; (2) an all-fibre container; (3) a protective paper bag within a carton, and (4) a protective paper bag. The alternates, of course, would not offer the maximum protection of metal, but each could prove itself a better-than-adequate container, given the proper structure, for the distribution of these food products.

Coffee packers obviously turned to the vacuum glass pack for coffee which was highly developed during the last war and which is a very good

from metal to glass

PHOTOS COURTESY ANCHOR HOCKING GLASS CORP.

GLASS CONTAINERS are about the only alternates for metal that can be used for hundreds of liquid and semi-liquid products and hot-processed foods. At left are examples showing the variety of products familiar in glass packages in 1943.

PAPER CLOSURES of ingenious construction saved the day for many a manufacturer when neither metal nor plastics could be obtained. Illustrated are the clever two-piece "daisy" closure used for Noxzema and other creams and ointments; the lug-type cap used on a glass jar of smoking tobacco; a sealed-on, plug-type cap used in the emergency when it was possible.

alternate selection for this product. But when the strain on glass manufacture became too great, many firms used a protective paper bag with special inner liner which also makes a good container, maintaining flavor and freshness for a reasonable period of shelf life. Some firms also used a bag-in-carton package for coffee, but this was not favored by Government authorities who were inclined to consider the double use of paper unnecessary.

As consumer goods themselves become scarce in times of emergencies, packagers need not worry quite so much about long shelf life. Everything they can produce for civilian needs is likely to be consumed quickly.

Product considerations

An examination of products which had to be marketed in substitute packages during the last war showed that they divided themselves into four broad groups:

1. Dry products—powders, granules, flakes, tablets, solids.
2. Moist and viscous products—creams, pastes, spreads, greases, solids and semi-solids.
3. Liquids—watery base products, oils, syrups.
4. Textile items—yarns, clothing, household linens, etc.

Almost every manufacturer's products come within one or more of these broad categories. In considering the possibilities for the replacement package, he must first determine the characteristics of his products and learn how they may be affected adversely.

Only with the knowledge of what changes may take place in a product, what causes those changes and what package protection may be given to prevent them is he able to select the alternate packaging materials that can be used efficiently. One authority lists 10 possible ways in which a product may be adversely affected:

1. Change in physical state, from its natural size, shape or structure to some less-desirable form.
2. Change from soft and pliable to hard and brittle.
3. Change from thin to thick.
4. Change in appearance.
5. Change in color.
6. Change in taste.
7. Change in odor.
8. Change in acidity or alkalinity.
9. Change in edibility or usability.
10. Change in chemical structure due to bacteria, mold, etc.

Obviously, the alternate packaging materials must be selected to prevent or safely minimize these undesirable changes, whatever they are, depending on the product. Paints and varnishes must be in a container that prevents evaporation of volatile ingredients or the product hardens and is unusable. Tooth powder loses its flavor due to the escape of aromatics through improper packaging barriers. Tooth-powder containers are also often left in the bathroom on moist surfaces; a container which allows water to soak through is little better than useless if it does not maintain the powder in a free-flowing condition. Baking powder completely loses its efficiency in a package that does not keep out mois-

SEMI-SOLIDS IN PAPER. All-fibre containers of special constructions, laminations, coatings and with special types of inner liners were used in the packaging of such products as printing inks, paints and waxes.

ture. Tobacco also becomes less desirable in a container that allows excessive loss of moisture. Moisture is the arch enemy of metal parts and hardware and must be kept out by the package.

It may readily be seen that the unfavorable changes that must be prevented by the package are caused by such conditions as the following:

1. Extreme dryness, which causes a moist product to dry out if the packaging is not sufficiently protective, causing hardening or brittleness, loss of proper consistency, loss of flavor, etc.
2. Extreme moisture, which may cause products such as salt, sugar, flour, etc., to cake or suffer deterioration through mold and bacterial growth.
3. Gas formations from the product which if not permitted to escape will break the container.
4. Light, which causes changes in the color of a product or, in certain cases, rancidity.
5. Packaging materials, which may give off odors that are absorbed by the product, or permit grease to seep through causing unsightliness or discoloration of product or package.

It is obviously necessary to study replacement packaging materials more carefully and systematically than traditionally accepted packaging which has proved its effectiveness through long usage. A vast amount of information about adverse conditions that affect products in relation to the packaging used was gained through military packaging during the last war. And even more was learned through the replacements used of necessity for civilian packaging. Test procedures to determine package performance were advanced many years in the space of a short time. Today's packager, therefore, if he finds himself in a similar situation, has a wealth of available information that was unknown during the dark days of 1942.

Leaders in ersatz

If the current supply situation follows the pattern of conditions experienced in World War II, manufacturers of what are considered "non-essential" civilian commodities are likely to be first to feel the pinch. The restrictive orders undoubtedly will be designed to reserve available quantities of scarce materials for essential products.

In the last war, this meant that cosmetics manufacturers were among the first to look for ersatz packaging and, because they had to use their ingenuity to the utmost, they were among those who did the best job of substitution. The cosmetic people are already on their toes in the present emergency.

The alert Toilet Goods Assn. has just issued a bulletin to its members recommending substitutes for brass, covering all the replacement possibilities for such big sellers in the cosmetic industry as lipstick cases, compacts, vanities, atomizers, rouge and eyeshadow containers. While the association mentioned aluminum and plastics among the possible alternates, it admits that the availability of these may change at any time and therefore discusses the paper cases and containers which became such an essential part of the cosmetic and toiletries packaging picture during World War II.

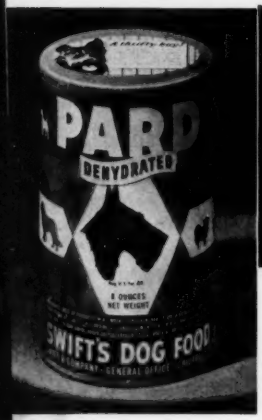
During 1943 and 1944, a great many cosmetic manufacturers used molded acetate for lipsticks and such other plastic materials as could be obtained. The same molds could be re-used if they are suitable for the particular plastics that are available. Construction of these lipstick cases can be improved considerably, it is felt, by using scrap metal for the cup and swivel.

The same thing goes for paper lipsticks of the swivel type, although one lipstick supplier found a way eight years ago of doing it with vegetable ivory. But of course, the Association's bulletin points out, the whole problem of movable parts can be avoided by the use of the push-up case.

Special coatings and impregnations

TOILETRIES IN PAPER

EFFICIENT paper containers like these—even the pressed-paper compacts and spirally-wound lipstick containers with beautifully printed wrap-around labels —were a mainstay of the cosmetic and toiletries industry. The supplier is already so swamped with inquiries today that he says, "Don't use our name, because mention in your magazine will bring on so many inquiries we can't take care of them."



PAPER TUBES were efficient substitute containers for leads, hairpins, small hardware, etc.

PRODUCT FORM sometimes is changed to use a substitute package. Dog-food manufacturers dehydrated the product and switched to paper pack.

of paper must also be studied carefully to give satisfactory results and neat appearance. Wood lipstick cases, usually of the push-up type, and compacts were used to some extent during the last war, but had the disadvantage of bulkiness. Wood must also be treated to reduce moisture absorption to a minimum.

A final substitute, the Association's bulletin says, would be the use of a small jar for lipstick, similar to the type used for cream rouge to be applied with a lipstick brush.

Containers for powders

Paper containers for talcum powder, made with very ingenious swivel shaker tops, replaced metal containers for talc quite extensively throughout World War II. They were attractive to look at, worked well and probably the principal objection was their lack of moisture protection and their gas permeability, which permitted the pleasant fragrances of the powder to escape too rapidly. Similar containers were widely used for tooth powders, which many consumers turned to when the insufficient supply of metal for collapsible tubes reduced the market supply of tooth paste.

One of the most ingenious of the paper containers for tooth powder was the cone-shaped can used by Colgate-Palmolive-Peet Co. The container was inspired by the construction of paper cones for holding string on grocery store counters. The tooth-powder container was made in the same way, spirally wound of specially treated paper with bottom disc added and with a paper slip-on cap. A glassine seal over the top opening helped to retain the flavor of the product.

STANDARDIZED GLASS for many items, replacing not only metal, but private molds, helped glass suppliers to increase production, thereby making available greater quantities of containers. Photo at left shows Log Cabin syrup bottle of standardized shape used during wartime to replace the famous cabin-shaped can. After the war, Log Cabin re-appeared not only in the familiar tin, but in a decorative private-mold bottle.

Collapsible tubes

So far as is known, there has never been a satisfactory substitute for a collapsible tube without the use of metal in some form. There have been many experiments with plastic tubes, but only one—an acetate tube adopted experimentally by Colgate for tooth paste and by Chesebrough Mfg. Co. for petroleum jelly—ever reached the commercial stage, and it was soon abandoned because it did not give sufficient protection and could not be manufactured completely satisfactorily or economically. Much progress has been made in the use of metals other than tin and tin-lead combinations for collapsible tubes, nearly 50 per cent of the tubes manufactured in 1950 being of aluminum (see "The Road Ahead," MODERN PACKAGING, Jan. 1951, page 76-77). During World War II years, the industry got along with 50 per cent of the tubes used made of lead. Nevertheless, collapsible tubes require either tin, lead or aluminum, and the problem is one of conservation rather than replacement, because no satisfactory alternates for these metals have been found for this purpose. There is a possibility of stretching the aluminum for essential purposes by use of the new convolute, film-foil tubes (ATF) where feasible, as these tubes, being lighter weight, are said to require less metal.

Swing to glass

The hot-processed food industries must of necessity turn to the glass package in times of metal scarcities. Nothing else has been found for safely packing fruits and vegetables. Hundreds of other food products in liquid or semi-liquid form can use very little

else but glass if metal is unobtainable, including such items as syrups, salad oils and processed meats, vegetable shortenings, etc.

Other tremendous users of glass in times of metal scarcity are the makers of cements, polishing waxes, paints, insecticides, household cleaning fluids, motor oils, etc.

Standardization of container shapes and sizes and the restriction of private molds helps greatly in speeding up glass production and making the available supply of glass go farther, but this, too, is a conservation matter and not replacement.

Closures

Closures for glass containers are always a vexing problem in any period of shortages. No satisfactory substitute for metal has ever been found for sealing glass-packed, hot-processed foods. The food processor converting to glass must therefore obtain metal closures and rubber sealing gaskets or the glass container is useless. However, the small amount of steel required for a closure is negligible compared with the amount of steel and tin required for an all metal can, and oftentimes blackplate, if suitably lined, can be used.

Plastic closures of phenolics and urea are efficient for many types of packaging, but they too may be as difficult to get as metal. Plastics suppliers, however, during World War II, extended the use of molding powder for closures by eliminating the lighter decorative colors and concentrating production on black and brown molding materials. For dark colors less refined types of filler materials are required and the resins can be made to stretch a little farther—even though appearance may not be so attractive.

Paper closures—usually impregnated with a binder and pressed—were found to be passable replacements for limited purposes. Glass-packed jars of smoking tobacco were closed during the last war with clever lug caps of heavy weight fibreboard, using a suitable moisture-resistant liner. Several firms also used paper closures for cream and ointment jars with varying degrees of success. Pond's Cream, for instance, was packed for quite some time with a paper closure. Another paper closure which received considerable attention was a two-piece threaded screw cap, all of paper, used for Noxzema. Paper caps were even used on coffee jars at one period, sealed on with pressure sensitive tape.

Versatility of paper

Among the dramatic developments in substitution were the containers for liquids and semi-liquids made of paper—the spirally-wound and convolute-wound asphalt-resin-and-paper cans for motor oil; the fibre containers with specially-treated cellophane linings for vegetable shortening; the multiwall bags of varying construction for such hard-to-manage products as liquid asphalt; the bag-in-carton for holding such liquids as malt syrup, used in the baking industry, which was equipped with a cut-off corner to form a pour opening.

All of these containers were replacements for metal. They were not so efficient as the packages they replaced, but they did a good job in the emergency.

No oil man will tell you he ever discovered a paper motor oil can that was eminently successful, but in spite of this such big names as Mobiloil, Veedol and others were seen in paper containers for some time. There was always the danger of leakage and fracture, as well as higher cost to produce them.

A real work-horse of paper packaging during World War II was the fibre-bodied can with metal ends as well as the all-fibre can with various types of interior construction, depending upon the kind of protection desired, and used widely for many types of dry and moist food products such as baking powder, cocoa, shredded coconut, nut meats, coffee substitutes, spices and many other grocery items.

Flexible packaging

Various types of waxed papers, glassines and laminated combinations took the place of aluminum foil almost

(*This article continued on page 170*)

PHOTO COURTESY BEMIS BRO. BAG CO.

MULTIWALL BAGS of laminated construction with waterproof glues, waxed coatings and dips were used for a variety of liquid products with remarkable success in the last war. Illustrated is such a bag in a corrugated shipping carton used for liquid or semi-liquid asphalt.

Products that use paper regularly

CURRENT PACKAGES that grew out of World War II experience are these paper containers successfully being used for a wide variety of items such as lard, baked beans, frozen cocoanut, etc. PHOTOS COURTESY SEALRIGHT CO., INC.

The 'light' look

PACKAGE FOR NEW *KING* WHISKY IS DESIGNED TO INFLUENCE TASTE IMPRESSION OF ITS CLAIM—'THE LIGHTEST BLEND'

Brown-Forman's new-formula King brand blended whisky features the theme, "Lightest blend on the market"—a formula developed, the company says, to meet proved consumer demand for a lighter blend. In taste tests conducted as part of package research, two out of three persons trying the new blend from a flint bottle and from an amber bottle previously used for King, thought that the sample from the flint bottle was smoother and lighter.

The "taste and sight engineering" test gave Brown-Forman Distillers Corp., Louisville, Ky., the package-design clue it needed for its new blend. Everything about the new King has been changed except the name.

With a long reputation behind them for making quality bonded and straight whiskies, Brown-Forman in 1940 began laboratory and consumer research to determine what the public wanted in blended whisky. At that time, 52% of the public were drinking straights and 37% were drinking spirit blends. During the war, because straight whiskies were in short supply, the drinking habits of the nation took a sharp turn and now 75% of the whisky which is being consumed is of blended types.

After tests established that the majority of blend drinkers wanted a light product, Brown-Forman turned their attention to packaging the "lightest blend on the market." Their advertising agency suggested an ad-detector which had been used successfully in testing visual impact of packages and sales material. Tests with the detector, similar in principle to the lie detector, showed that a majority of the people participating associated a light drink with a light bottle and label. When the same whisky was sampled from two different bottles, 67% of the tasters thought that the drink from the light bottle with the light label had the "lightest taste." Further field surveys substantiated these findings.

Brown-Forman then called in an independent designer who for many years had specialized in packages for the food and beverage industries. Thorough analysis of the product was made before actual design work got under way, it being felt that the product must be so interpreted in the package that the crux of the sales message would be spearheaded by the package.

CLEAR GLASS and light-colored label were shown in tests to give drinkers an impression of lighter taste, as against same whisky served from former amber bottle. New bottle is taller and more slender and gives maximum light effect to whisky at neck and shoulder. The new gift carton for Brown-Forman's King brand whisky also is illustrated.

It was necessary to take into account the fact that the King brand formula was completely changed. The new King brand is 86 proof, with 37½% aged light whisky and 62½% aged neutral spirits. Since it had already been established that the physical appearance of the container plays an important part in what is registered in the mind, it was decided to discard the former amber bottle with its black label in favor of a clear, flint-glass, slimmer bottle with a light-colored label. The effect is better visibility of the light amber whisky and an appearance

of greater height and better proportion in the bottle itself. The former bottle was squatty with a long neck. It appeared small and gave the impression of less contents in the bottle.

Since the word "Kentucky" means good whisky to so many people, it was felt that the cellulose seal should play up this reference. The white seal now reads, "Brown-Forman's King, a flavor-favorite from Kentucky." A bevel in the neckline of the bottle has been introduced to emphasize the "full measure" impression and the golden color of the liquor. A new shoulder label placed in a debossed area cites Brown-Forman's tradition of more than 80 years of fine whisky making.

The completely different front label has a stippled surface, buff background with a black grid-line center panel for the name and statement about the blend. A new trademark—the stylized face of a king crowned with stalks of grain on a barrelhead—is placed directly above the brand name. Colors of gold, red and black and old-style type faces give the label an illuminated manuscript effect, thereby suggesting age and rare quality.

The back label bears the facsimile signature of W. L. Lyons Brown, president of the company, under the following statement: "The fine whiskies in this product have been selected, blended and bottled by us with infinite care. Our 80 years of experience in fine whisky making is your assurance of superior quality and satisfaction."

OLD PACKAGE—a squat amber bottle with a black label—was not in keeping with the new formula, which is a lighter blend.

SHIPPING CASES, now flowing in quantity from Brown-Forman's Louisville plant, also carry the new and distinctive barrelhead King trademark and emphasize product's merchandising theme, "It's really light."

King brand whisky is the second product to be personally signed by a Brown-Forman president. George Garvin Brown, founder of the company, signed his name to the first Old Forester label. In this connection it is interesting to note that Brown-Forman produced the first Old Forester bonded bourbon in 1870 and was the first distiller to sell its whisky only in bottles. Most other whiskies at that time and even as late as Prohibition were largely distributed in barrels.

Gift cartons and shipping containers have also been newly designed for King blended whisky. The gift carton has a unique cutaway section across the front and right panels, making a corner window in the carton. A red background panel showing cocktails and a highball is mounted inside the carton, creating a three-dimensional display. The die-cut mounting presses against the neck of the bottle and provides additional package protection. The barrelhead trademark on the front panel of the carton juts into the cutaway section, thus heightening the picture-window effect.

The carton background is white. A wide black panel bordered with red lines and yellow bars bands the carton diagonally. Company name and brand name are printed on the black band in early American billboard-style type faces. The total effect is a combination of old-time circus showmanship with effective neo-modern treatment of design elements.

The new shipping container prominently displays the barrelhead King trademark and carries the merchandising theme, "It's really *light*."

Brown-Forman's solution of the difficult problem of introducing an altogether new formula and package to a market already familiar with the former brand is eased by a nationwide advertising campaign. Full-color pages in national consumer magazines and advertising in newspapers, trade publications and outdoor media are being used. The theme, "It's really light—as you like it" is appearing next to the prominently displayed, new, golden-barrelhead trademark and the new clear-glass package.

CREDITS: *Design, Ernst Spuehler, Elgin, Ill. Bottles, Owens-Illinois Glass Co., Toledo, Ohio. Labels, Courier-Journal Printing Co., Louisville, Ky. Closures, Mundet Cork Corp., North Bergen, N. J. "Cel-O-Seal" secondary closures, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. Display carton, Bradley & Gilbert Co., Louisville, Ky.*

Packaging's Hall of Fame

LIPTON TEA

TWENTY-SIXTH OF A SERIES

The tea bag, an American invention, typifies a special characteristic of American packaging—that is, making a product so downright convenient to use that the consumer finds it practically irresistible. First regarded as a novelty, then as a luxury, the tea bag has benefited from constant improvement of materials and from the perfection of high-speed, precision machinery that now forms bags and fills them with tea at the rate of 160 per minute.

Thirty years ago when Britain's Sir Thomas Lipton, on one of his frequent visits to the American branch of his tea house, first recognized the tea bag as a young packaging idea that might go places, the tea bag had already been kicking around unclaimed and unwanted for ten years, and was any tea merchant's property just for the asking. Today, almost as many cups of hot tea are made in this country with tea bags as are brewed from loose tea and Thomas J. Lipton, Inc.,—the American company that Sir Thomas founded—is the largest seller to the home market.

1910

EARLIEST PACKAGE in files of American branch of Lipton's is this red-label tin of 1910 vintage with double closure to protect tea from moisture. This was before tea-bag days and the firm, then 22 years old, claimed "largest sale in the world."

According to a 1950 survey of consumer preferences in selected markets, Lipton's tea and tea bags were in first place for all ten of ten major markets reported, and leadership in each instance was held by truly impressive margins. It is generally conceded in the trade that Lipton's has held first place nationally for many years.

This is readily understandable. Sir Thomas, in 1888, was the first tea merchant anywhere to insist that all his tea be sold exclusively in packages. In this country, he was the first tea merchant operating nationally to adopt the tea bag for hotel and restaurant distribution, and even though competitors beat him to the punch in reaching the home market, it was his principles as a packager and merchandiser that helped make Lipton tea bags the largest-selling favorite of the American housewife.

Sir Thomas was also the first packager of tea bags to use printed tags to carry brand identification right to the cup, and he was the first packager to use the tags to promote package remembrance.

Lipton Tea is nominated to *Packaging's Hall of Fame* primarily because it pioneered the tea bag—a unique and particularly useful package—but also because the company's packaging throughout, on tea and other products, demonstrates the best principles of packaging success.

Lipton, in addition to his packaging and merchandising foresight, laid down the precept of quality in all his operations. "Packaging is only half a policy," he used to say. "Quality is the other half."

Another Lipton imprint on the history of tea merchandising and packaging in this country is the strong promotion that Sir Thomas carried on during his 65 boisterous years of business activity.

On one occasion when a ship on which he was sailing ran aground in the Red Sea, he tipped one of the engineers to make him a stencil. Then with red paint he labeled the words, "Drink Lipton's Tea," on as many bales, cases and crates as possible before they were cast overboard to lighten the ship. Possibly none of the salvage reached people who could read English or who had ever heard of Lipton, but the story of Lipton's act was invaluable publicity when reported in newspaper accounts of the wrecked boat.

Lipton was the first advertiser to take to the air—via huge balloons. He originated a cartoon series to advertise his first bacon-and-ham shop in Glasgow, Scotland, a device as successful then as the comic strips, that the Lipton company uses today in advertising.

Sir Thomas spent hundreds of thousands of dollars in both direct and indirect public relations. No better examples of his indirect approach could be cited than his famous $100,000 dinner for the poor of London and the everlasting fame he won by losing—in good sportsmanship—all his sailing challenges aboard the Shamrocks in

NOMINATED FOR PACKAGING'S HALL OF FAME BECAUSE:

- **It pioneered the tea bag—prize example of American ingenuity in functional packaging—as a means of national brand-name promotion.**
- **Quality and salesmanship have kept it America's top seller.**
- **Sir Thomas Lipton's early understanding of the value of packaging transformed tea from bulk to a packaged business.**
- **Lipton's has steadily pushed ahead in materials and methods.**

TODAY'S PACKAGES for Lipton's bagged teas are models of convenience, economy and sales appeal. Instant brand recognition is provided by the prominent use of the name and face of company's founder, Sir Thomas.

ARTHUR GODFREY, sponsored by Lipton's on 150 radio and 20 TV stations, is now almost as closely identified with Lipton tea as Sir Thomas himself. It is typical of Lipton promotion to employ the brightest star of the air waves. Sales have responded with record-breaking gains.

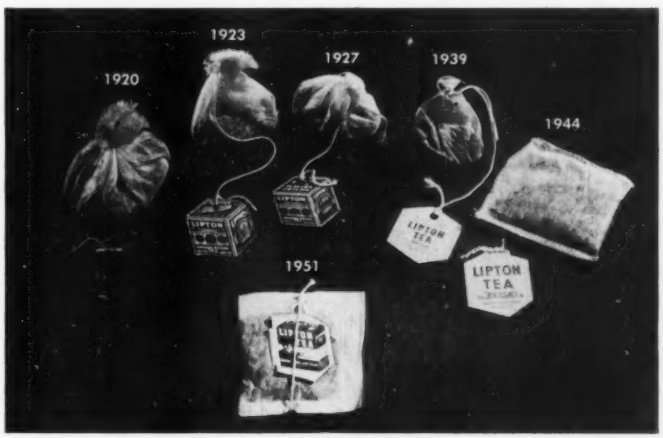
the thrilling races for The America's Cup.

Today, Lipton advertising, though changed with the times, is no less robust. Its premium offers, comic strips and sponsorship of Arthur Godfrey on radio and TV are winning the hearts and patronage of an ever wider audience. As in the days of the founder, the Lipton Co. is still the biggest advertiser in the tea business, with a budget that approaches a million and a half dollars.

Through his canniness in blending, packaging and advertising a product so that Americans wanted to buy it, Sir Thomas claimed credit for resurrecting the tea-drinking habit from the limbo into which it had fallen in this country during the 19th century.

Lipton's background

Sir Thomas himself was hardly the representative of English aristocracy that his title would imply, although he was a millionaire before he was 30. His fame was not originally built



TEA-BAG EVOLUTION. Lipton's first tea bags were tied and trimmed by hand. By 1927, manufacture was automatic. Later the sewn pillow-type bag was adopted. The modern tea bag is made of heat-sealing filter paper and is eminently suited to meet present-day complex packaging requirements.

Steps in design development for Lipton

1929

FAMOUS 'GOLD' TIN helped Lipton popularize the use of tea bags. Hinged box was treasured for re-use value.

1934

CARTON was adopted to meet popular demand at less expense. Picture of Lipton was used for the first time.

1939

TUCK-TOP CARTON was very much easier to open and was cellophane overwrapped. Copy was also simplified.

on tea. He was Irish by birth and American by inclination and business method.

Thomas Lipton's parents were penniless refugees from the Irish potato famine, who settled in Glasgow in the 1850s and eventually opened a tiny provisions shop. Young Thomas quit school at 9 to work as an errand and cabin boy; came to the U.S. alone in steerage at 14; worked on a Virginia tobacco plantation and in a New York grocery store; returned to Glasgow to make a success of his parents' shop and opened his own first store when he was 21. Soon, with a truly American flair for aggressive advertising and merchandising, he had a chain of ham-and-bacon shops throughout Scotland and England—the first of the chain-store tycoons. His fortune and fame as a merchant established, he entered the tea trade on an impulse in 1888.

It was tea that finally established Lipton in America. Although he already had meat-packing interests in this country, they were merely sources of supply for his British stores. He was a frequent visitor to the U.S., which he admired and regarded as a second home, and on a westward Atlantic passage in 1890 he decided to give the American tea business the once-over.

"I was astonished beyond measure," he said in his autobiography. "To all intents and purposes there was no tea trade. I started by asking for a cup of tea in my hotel. The waiter looked at me with an expression of amazement. He went off scratching his head and repeating the words 'Tea, sir? Did you say tea?' At the finish he brought me coffee."

Tea of a kind was available in stores, but it was terrible. Lipton characteristically tackled the proposition at once. He appointed a large number of agents to cover the American wholesale trade and meantime ordered large supplies of tea from his estates in Ceylon, which he had purchased only 18 months earlier. His American tea business was soon established with a success that far exceeded his own expectations. The business in this country was incorporated as a separate division of his interests in 1915.

No small factor in his success was the pioneering spirit Lipton exhibited in regard to packaging. In his autobiography he says:

"One of the first innovations I carried into effect was to have my tea made up beforehand in pound, half-pound and quarter-pound packets. Hitherto, the general practice in the retail trade had been to serve tea from open chests or drawers behind the counter. This method, in my view, was unsatisfactory for many reasons. Chiefly because it led to uncertainty in the customer's mind as to whether she was being given the correct weight or the exact quality of tea for which she was paying. The Lipton packets, plainly marked as to price and quality, instantly became popular. They were also much more easy to handle from the standpoint of shopkeeper and client alike."

Lipton was knighted by Queen Victoria in 1898 and made a baronet by King Edward in 1902. There are indications that these honors were in recognition more of Lipton the Philanthropist than Lipton the Merchant, although his packaging and merchandising methods must have had as great an influence in Britain as in this country. He died in 1931 at 81.

Considering the prominent part that Sir Thomas Lipton played in building the tea business in America and also

1944

MODERN DESIGN, with stronger use of Sir Thomas in tea-drinking pose. Paper bag was of sewn construction.

in introducing the tea bag. It would be nice if one could add to the story by saying that Sir Thomas invented the tea bag. But that would be far from the truth. It would be more accurate to say that the tea bag discovered Sir Thomas, and though he immediately saw its possibilities for institutional trade, he and the firm that survives him would claim little credit for the tea bag's greatest advances.

Invention of the tea bag

Such credit actually belongs to many people—to the two Americans who invented the tea bag, to the contract packagers (who did and still do handle much of the actual packaging), to the manufacturers of packaging materials and machinery and certainly—by no means least of all—to the American housewife, who, in her search for a more convenient way of handling tea, has made the tea bag the big package item that it is today.

The actual inventors of the tea bag, it is believed, were a New York merchant named Thomas Sullivan and a coffee-urn bag maker by the name of Louis Hirschhorn. Sullivan in 1909 was seeking a way to put up samples and brought his problem to Hirschhorn, who devised a simple bag of silk, which was very cheap in those days. Soon Sullivan's customers in the restaurant trade were demanding more of the bags, but not as samples. They had discovered the convenience of the bag for making a cup of tea—no spilled leaves, no waste or guesswork in measuring the amount and no loose, soaked leaves to swallow while drinking or to clog up drains when discarded.

Thus the tea-bag business was born. Hirschhorn invented a crude but effective machine for forming and filling tea bags, and by 1910 was employing 50 girls to tie and trim the bags. They were used by a few small jobbers in New York supplying local restaurants. Most of them carried no brand names. Four years later he abandoned silk because of its objectionable odor. Meanwhile, he had a machine developed that would measure tea into a sewn gauze bag. This machine automatically turned the bag inside out; stitched the inside seam; filled the bag and applied an aluminum clip. With two brothers, Hirschhorn founded the National Urn & Coffee Bag Co. of Long Island City, which is one of the largest and most important firms in the tea-bag business today, still doing a contract-packaging business.

But the man who brought the tea bag to Sir Thomas Lipton and thus launched it as a branded, nationally promoted package was W. A. Upham, founder of the Upham Food Products Co., Hawleyville, Conn. One day in 1919, Upham saw an individual tea bag being served in a New York restaurant. It was hand-sewn and without any tag. It occurred to him that there would be vast possibilities in marketing individual tea bags bearing the Lipton label. Sir Thomas' representative, however, simply refused to see Upham.

Upham, as the result of a little bribery, wangled his way into Lipton's New York hotel suite. Lipton's secretary bristled on seeing the intruder, but Upham raised his voice and declared angrily that he knew Lipton was "in a hole." Lipton charged into the room and demanded the meaning of the racket.

"You're in a hole," Upham declared defiantly.

"What do you mean? How do you know?" the Britisher exclaimed.

"There isn't an ounce of your tea on sale at Charles! There's not an ounce at Park & Tilford's!" Upham answered.

"But why crash in here telling this to me?" Lipton demanded. "Why don't you see my office representative?"

"I've tried. But he's not a trader like you are. He doesn't understand American business. He's . . . he's too

RECENT CHANGES have been minor modifications in lettering and in the shape of carton, moving toward more cubical proportions. Note the emphasis on "Brisk," which is main theme of all current Lipton advertising.

THE TEA TASTER is a key man in all Lipton plants, for the company has rigid standards for quality and uniformity. Here the expert samples and identifies a shipment of leaves just received.

high-hat. I can't get into his office."

Lipton thought a minute. "I've got a new man who is a trader," he said, "his name's Graham. If you'll see him, you'll find that Lipton does business the American way."

Upham not only saw Graham, but lost no time in selling the tea-bag method as a new way to handle tea. Heads of the Lipton concern and Sir Thomas himself were soon enthusiastic. As a result, Upham built a wooden tea-bag machine and when it was completed received an initial order for 500,000 tea bags to be delivered at a minimum rate of 5,000 bags a day. Lipton had an option to double the order, which he soon did. The move was a daring one both on the part of Lipton and Upham, if for no other reason than the size of the order. Lipton, however, had an intuitive knack for making the bold stroke pay off in business, as this one surely did.

Lipton's first tea bag, packed by Upham on his hand-operated wooden machine, was made of cheesecloth. The cloth was gathered around the tea in the form of a pouch and tied at the neck with string. On the other end of the string was a die-cut tag on which were reproduced the colors and copy of the Lipton "Gold Label" package—much as the tag is used today. Reproduction of the Lipton packages has with but few exceptions been a feature of the Lipton tag, revealing shrewd appreciation of a strategic medium for stressing package identification at point of use.

Thus, as far back as 30 years ago, when the tea bag was an unknown, untried and unacclaimed package, Sir Thomas displayed an attention to detail that goes far toward explaining why he was always able to put his packages and products to the fore.

Progress in packaging

The cheesecloth tea bags were packed 100 to the pound—approximately double the size of today's tea bag. The tea-bag operation was a complete hand process with the exception of the first step of metering out the tea and shaping the bag. The girl operating the machine had to cut the cloth to size, tie the thread about the top of the tea bag, attach the tag and trim the top of the bag. Approximately from 2,300 to 3,000 tea bags per day were turned out on one machine by this method, depending on the skill and diligence of the operator. The tea bags were packaged solely for the restaurant trade and were put up in chipboard boxes, 100 tea bags to the box and five boxes to a shipping carton.

Sir Thomas was bothered by a slight taste imparted to the tea by the cheesecloth, and soon directed a change to a special sterile surgical gauze.

By 1926, tea bags were being manufactured on a Pneumatic Scale pouch-type tea-bag machine. The bags differed little in appearance from those first done by hand, but the improvement in speed was terrific, with average capacity running at 2,000 per hour, or from 16,000 to 18,000 per day.

About this time, Lipton found it advisable to install its own equipment for in-plant filling and packaging tea bags, although contract packaging continued from time to time.

About 1932, a Wright multiple-head automatic machine was adopted by Lipton. This machine produced a square sewn bag. The multiple-head feature practically doubled production speed—to a rate of 60 or more bags a minute. The rights to this machine were subsequently taken over by Pneumatic Scale. In later models, installed by Lipton as early as 1946, speed was increased to 135 bags a minute. This was about the limit so far as speed in the manufacture of sewn bags was concerned, and meant that sewing heads had to turn over at the enormous rate of 4,000 times a minute.

A specially developed filter paper was adapted for Lipton's tea bags about 1937 and was sewn just like the

Three stages in

LIPTON'S FIRST automatic tea-bag machine was installed in 1927. Previously bags—at this time sold by Lipton's only to restaurants—had been made and filled outside. This sack-type bag was of gauze.

gauze material until after World War II, when the modern duplex machines for making heat-sealed bags were installed. The paper material was considered to be more nearly neutral in taste.

The consumer market

The entry of the tea bag into the home market, it is thought, came about more or less by consumer demand. With a Britisher's regard for the ritual of tea brewing in the home, Sir Thomas did not believe the tea bag would be a hit with the housewife. The homemaker, however, discovering the convenience of the bags in restaurants, began asking for tea bags in the stores. Soon Lipton's tea bags were being diverted by jobbers to the retail trade. Before long Sir Thomas realized which way the wind was blowing and came on the retail market with a lithographed "gold" tin containing 15 tea bags. This was in 1929.

Just as in selling tea bags to restaurants, the price handicap of the more expensive packaged product made it initially difficult to sell to the trade. Lipton overcame resistance by making tea-bag business a *must*. Quotas were shipped to Lipton salesmen, who were requested to send in their collections by the end of the week. The tea bags were sold.

The problem ended there, for the consumer gladly paid 25 cents for the "gold" tin, which provided just the right amount of "dressing up" for a product that was at the time a bit of a luxury.

The gold tin helped put Lipton up front in the merchandising of tea bags for home use. It remained a regular item in the Lipton package line until 1938. However, tea bags were destined to move out of the luxury class, for economies in materials and production steadily brought down prices. To keep step with this trend, paperboard cartons were adopted.

Lipton's first paperboard package, introduced in 1930, was a "gold" packet of 5's. It sold for ten cents. According to Lipton salesmen, it moved like hot cakes at a boarding house—but not always to the tune of a cash register. Customers were prone to just help themselves. This early and unplanned sampling campaign was probably not without value in winning new Lipton customers for the tea bag.

In 1934, Lipton came on the market with paperboard packages of 8's and 20's. The 1934 package established red and yellow as the basic identifying colors. A small vignette of Sir Thomas was used for the first time, three years after the yachtsman-tea man had died. Later his picture was to be used much more prominently as a package feature, just as it still is.

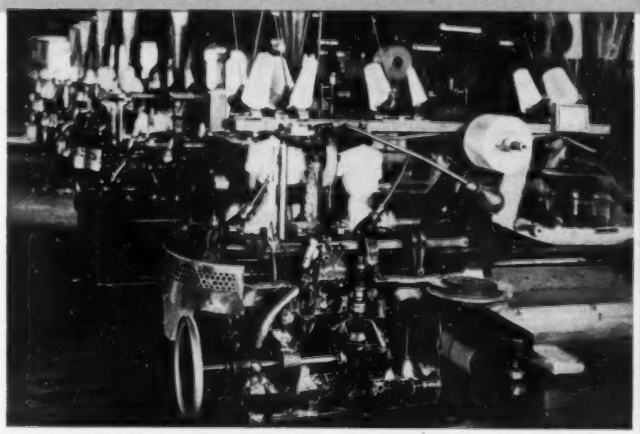
Lipton as a personality is unique in the merchandising of tea. The company makes no effort to capitalize on Sir Thomas in any of its promotion save for his picture on the package, yet his fame is still a force to be reckoned with in national distribution of tea.

In 1944, the Lipton package was changed to a shape and design that is quite similar to the package used today. The vignette of Sir Thomas was enlarged and showed him holding a cup of tea. Cellophane, which had been used as an outer wrap on the 1939 and subsequent packages, was used until a wartime shortage of cellophane brought about a temporary use of heat-sealed glassine. Cellophane was later resumed.

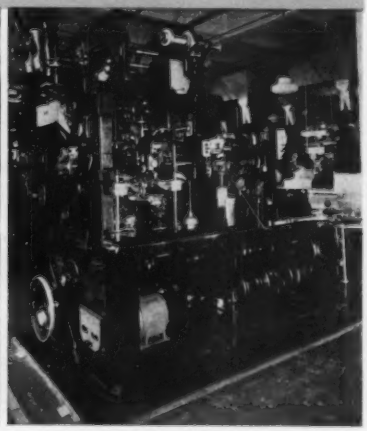
The number of tea bags offered in Lipton packages has varied widely—100's, 15's, 5's, 8's, 20's, 48's, 50's and 16's. Considerations of market, price and competition have all been factors in the variations. In recent years, the 100's package has been redesigned twice to produce improvements in compactness and display and handling ease.

The most popular consumer-sized Lipton package is the carton of 48 tea bags. The package of 16's is a very close second. Each tea bag holds enough tea for one good cup. Some people, of course, get additional "cuppage" from tea bags. (Lipton actually had a letter from one cus-

development of tea-bag machines



MULTIPLE-HEAD bag-sewing machine outmoded the tied bag because it could produce at far higher speeds. The flat-type sewn bags were first used by Lipton's in 1932. High-speed machine shown here was in use in 1947.



TODAY'S HIGH SPEED is made possible by the advent of heat-sealable filter paper, which is used on this latest-type machine.

OTHER PRODUCTS recently pushed to popularity are the dehydrated vegetable and noodle soups (left) and Lipton Frostee dessert mixes (above). Lipton's has been outstandingly successful in the use of colorfully printed, laminated-foil, heat-sealed envelope as a package form for these types of food products.

tomer complaining that a tea bag had worn out in repeated usage.) A standard net weight for tea-bag packages has long been regarded as desirable, since tea-bag count alone is not by any means an adequate measure of what the customer gets for his money.

The most important factor in tea is the blending, and expert tea tasters are the *sine qua non* of the business. Their palates are as sensitive as the fingers of a harpist and their findings as accurate as those of a scientific instrument. An expert tea taster can identify between 1,500 and 1,600 different teas, telling the variety, where it was grown and even the season of the year it was picked and how it was processed.

Therefore, it is obvious that the tea taster must have given little encouragement to the tea bag during the early years of its development, for his keen taste must have rebelled at the slightest foreign flavor of silk, gauze, cheesecloth, etc. Moreover, many tea drinkers were, and many still are, purists who consider proper tea brewing an ancient and unalterable rite. The great improvement in the tea bag during the past ten years has won over many of the traditionalists. This in itself is the finest possible testimonial to the makers of tea-bag papers, string, tags and tag inks. Even the professional tea tasters agree to this.

The qualities of a good tea bag are by no means simple. The material must be sufficiently dense to preclude the passage of fine dust-like particles into the brew; at the same time, it must be perfectly porous to the passage of liquids and vapors. It must retain its strength and properties in boiling water. It must impart no foreign taste or odor to the brew. It must be inexpensive and capable of high-speed automatic filling and sealing.

Machinability and speed of handling have been ever more important in the selection of tea-bag materials. Today's complicated high-speed machines are marvels of precision and mechanical ingenuity, but as such are temperamental, thus placing uncommon stress on the quality and uniformity of the materials on which they operate.

The tea bag itself provides little or no protection to the essential tea properties. Wrapping the carton in a moistureproof material is therefore desirable. Even so, tea may lose its flavor if packages are held on store shelves for too long a time. Coding and provision for rapid turnover are, therefore, part of the packaging picture.

Directions for proper brewing are very important, since it is comparatively easy to make a good cup of tea, or to make a poor one. The directions cannot be too long or people will not read them. The logical spot for directions is on the tea tag, but in that case the space is quite limited.

Lipton's packaging

Lipton is one of the few tea packers who believe proper brewing so necessary to real tea enjoyment that they give space for instruction on the tag. Tags are printed and die-cut at high-speed in Lipton's own plant.

Lipton's current tea bag is made from a base stock originally developed with an all-hemp base to provide a long-fibred paper assuring excellent tear-strength. The heat-sealing quality is provided by filtering thermoplastic fibre into the stock while it is being fabricated. This also gives wet strength. Considerable research has been expended in improving the paper in regard to porosity, strength and freedom from taste and odor. Filter paper is one material for which the supply outlook is said to be good even when shortages of other materials may prevail.

The thread used in attaching the tea tag is made from imported Egyptian sack yarn because it yields more yards to the pound and at the same time has the necessary qualities of tastelessness and purity. The thread is fastened to the bag with an aluminum wire clip.

The bags are counted and packed by hand in a glassine bag, which is folded over and placed loosely in the paperboard tuck-type carton. The cartons are cellophane wrapped and heat sealed to provide protection from moisture and odors and are then put in corrugated shipping cartons.

Lipton tea-bag packing is done in three plants strategically located at Hoboken, N.Y. (the main plant); Streator, Ill., and San Francisco. A fourth plant to be in operation early this year in Galveston, Texas, will be the first completely air-conditioned, humidity-controlled tea-packaging plant in the country.

Lipton's largest operations are car-

(*This article continued on page 178*)

MILK CONTAINER of waxed paperboard makes a good package and provides pouring spout for application of batter directly to the griddle. A quart package makes from 28 to 32 pancakes. The product is either delivered by milk man or sold through food stores and other retail outlets.

NEW DESIGN of carton highlights product name against eye-catching bull's-eye. Colors are brown and blue. Side panels give instructions for cooking.

Griddle-ready

IT'S A LONG WAY FROM FLAPJACKS TO EASY PANCAKES

MADE FROM FRESH-MIXED BATTER PACKAGED LIKE MILK

Emancipation of the housewife takes another step forward with the development of a packaged, ready-mixed pancake batter which eliminates all measuring and mixing of ingredients. With Grid-l-Redi, as the product is called, it is necessary only to pour the batter onto the griddle directly from the milk-carton-style package. Each quart carton contains enough batter to make from 28 to 32 pancakes.

Interesting from the distribution standpoint is the fact that the product is being sold through dairies, as well as through wagon jobbers which sell through groceries, restaurants and retail outlets directly to the consumer. Thus the housewife may either buy the new pancake mix at her food store or, if she chooses, have it delivered directly to her door with the morning milk and eggs.

Grid-l-Redi is produced under a licensing arrangement with Grid-L-Rich, Inc., Chicago. This company, which developed the product, supplies the dry mix powder to franchised processors in car lots. Processors add a predetermined amount of filtered liquid, mix, emulsify, cool and pack the finished batter in the quart cartons. Dairies which are already set up to handle the same type of carton for their fluid milk and related products are ideally equipped to process and distribute the product.

One of the first plants placed in operation, located in Chicago, has a maximum output of 50,000 qts. of the batter daily. Present merchandising plans contemplate initial distribution in the Chicago and New York markets, with additional markets to be opened up as individual processors get into production. When sufficient distribution has been reached, the product will be available on a national basis.

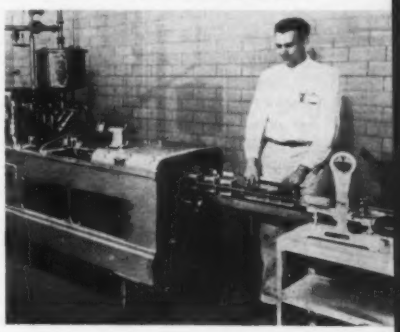
Packaging of Grid-l-Redi is handled on equipment identical to that used by many dairies for fluid milk. This equipment shapes and waxes the slope-top cartons, which pass beneath a two-gallon filling vat. The finished batter, fed to the vat through pipes, is released in pint or quart volume into the continuously passing cartons, which are then automatically sealed and collected as they leave the machine.

When stored in the home refrigerator, Grid-l-Redi may be kept as long as two weeks. Unused portions may be left in the container for later use. The product is conveniently dispensed onto the griddle through the pouring spout at the top, which is completely protected by a perforated sealed flap.

The carton now being used for Grid-l-Redi is printed in chocolate brown and blue, featuring the trade name of the product in bold blue letters against white bull's-eye panels on the front and back surfaces of the package. Front and rear sides are identical in design, with a blue stripe bordering the brown background at the bottom; side panels carry the product name at the top in blue, followed by summarized use instructions in brown. One of the side panels bears the list of ingredients at the bottom, while the other lists Grid-L-Rich as the parent organization. This carton supersedes an earlier design featuring two chefs, one of whom was carrying a tall stack of griddle cakes.

CREDIT: *Carton-handling and filling equipment and "Pure-Pak" containers, Ex-Cell-O Corp., Detroit.*

AUTOMATIC packaging. The dairy-type machine shapes, waxes and sterilizes cartons before passing them under 2-gal. filling vat. Same machine handles both the pint and quart sized containers.



CHILDREN LIKE the bright color of the bowls used as cereal dishes and the tumblers as milk glasses—they won't break. Mother finds them equally popular when entertaining friends at bridge luncheons.

PRIZE PACKAGE with immense appeal for housewives, who collect sets of eight different colors, is the anodized aluminum tumbler used by Borden's. Closures may be polyethylene or foil. The bowl is a recent addition.

Super premium

COLORFUL ALUMINUM TUMBLER PACKAGE

FOR COTTAGE CHEESE PROVES ONE OF HOTTEST ITEMS IN DAIRY HISTORY

When a good premium sells merchandise, that's to be expected, but when it changes eating habits of entire metropolitan areas all over the country, it's the kind of miracle sales managers dream about yet seldom expect to see—especially with an item as prosaic as cottage cheese.

In recent months, however, just such a premium has appeared on the market and has stirred real excitement in dairy circles.

What happened is interesting enough, as a few statistics will show. Why it happened—now that cause and effect can be surveyed calmly—is even more revealing, for it gives some clue as to just what the public wants in package premiums. It is for that basic lesson that this article is presented, for it must be recognized at the outset that the material from which the package is made is a vital war material that is already under a percentage cut and may soon be completely unobtainable for unessential packaging uses.

Aluminum in colors

The premium package in question is a gracefully shaped tumbler or bowl of anodized aluminum, finished in such beautiful colors as gold, silver, wine, Chinese red, emerald, deep purple, chartreuse and blue. An important factor in the success of the tumblers and bowls as food containers was the perfecting of the anodized color process to comply with health regulations and provide a laboratory-tested finish unaffected by lactic acid or food ingredients. Only through developmental work and the creating of extensive facilities to permit use of certified pure food colorings in place of the customary aniline dies was the color problem satisfactorily solved.

The containers are both a premium and a package, because the practice is to fill the tumbler or bowl with cottage cheese and cap it for delivery

either with a heavy aluminum-foil crimped-on closure, or a molded polyethylene snap lid. Although it is necessary to charge roughly three times the normal price of the cottage cheese to cover the cost of a tumbler, the housewife apparently recognizes that the combination is a bargain—and she apparently won't be content until she has bought enough cottage cheese to accumulate one or more complete sets of eight tumblers.

The colorful tumblers are obviously useful for the serving of any type of beverage and calculated to create as much excitement at the bridge party as in every-day use for the children's milk. The shallow bowls can be used as cereal dishes or decorative containers for candy or snacks. Most experience has been had with the tumblers; the bowls are more recent.

At first glance, the apparent craze for collecting these novel containers might be written off as a fad of the moment, and the average family's appetite for cottage cheese would certainly appear to have a saturation point. But consider the experience of the Borden Co. in Columbus, Ohio.

The Columbus Borden's moved 22,000 sets of eight tumblers each in the first eight weeks of a special cottage-cheese promotion and quickly followed up with an additional 13,000 sets. In all, this one dairy, in a period of only 20 weeks, sold 280,000 tumblers (210,000 lbs. of cottage cheese) in a city whose total population is only 355,000 persons.

Similar results were reported in other sections of the country. The Borden Co. of Burlington, Vt., sold 5,000 tumblers. Dallas, Tex., is using 120,000. El Paso, Tex., used 20,800. Longview and Lubbock, Tex., used 16,000 and 8,000, respectively. New Orleans used 22,400; Phoenix, Ariz., 24,500; Grand Rapids, Mich., 26,000; Detroit, 172,000; Mansfield, Ohio, 16,000; Marion, Ohio, 21,600; New Philadelphia, Ohio, 10,900. Across the nation, in towns big and small, Borden's promotions kept adding machines busy and jumped cottage-cheese sales to new highs. According to J. B. Pentz, sales director, Mid-West District of the Borden Co., "Our cheese promotion in aluminum tumblers has been one of our best. It has been our experience that approximately 40% of our retail customers will purchase these tumblers."

Meanwhile, other dairies have been participating in the bonanza. Beatrice Foods' operations in Lima, New Bremen, Tiffin and Zanesville, Ohio, and Meadow Gold plants in Champaign and Danville, Ill., and in Denver, Colo., have used more than 90,000 tumblers. The Tip-Top Creamery Co., of Vincennes, Ind., a division of Beatrice Foods, used 104,000 tumblers in the first round.

The Luicks Dairy in Milwaukee moved 192,000 tumblers. In Muncie, Ind., the Covalt Dairy, Inc., distributed 5,600 sets of tumblers and a competitor handled 2,200 sets making a total sale of 62,400 premium packages in a city with 58,000 population.

The above figures are from a single tumbler supplier. With other suppliers also going after the business, it is safe to say that around 10 million anodized-aluminum tumblers have been used as packages for cottage cheese in the last few months.

Past promotion records for the above-mentioned dairies, it is reported, have been shattered with cottage-cheese sales advancing as much as 400%. For the most part, it is said, the promotion produces "plus sales." This means new consumers of cottage cheese who, it is believed, will continue to use the product as a staple item after the promotion is ended.

Ideal type of premium

A premium that is also a package is the most direct of all packaging sales stimulants. It keeps product and premium together as a unit through sale and use, requiring no coupon clipping or other effort on the part of the consumer. Moreover, for the packager this is the practical type of premium in which the cost of the premium is covered by the retail price of the deal, with no added activity or expense.

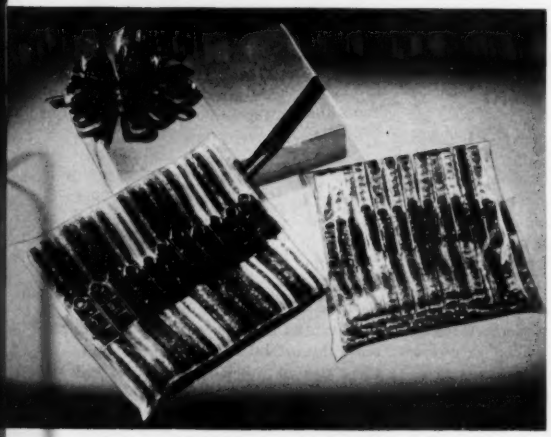
In retail stores the tumbler alone sells for somewhere around $1. Filled with cottage cheese worth 18 to 20 cents, the premium tumbler is delivered to customers by dairies at prices ranging from 49 to 60 cents. Thus the customer finds the margin of saving at the premium price so wide that the temptation to buy seems irresistible.

There are other cogent factors that make customers want to buy cottage cheese in these tumblers. For one thing, the tumblers are easy to buy because they are delivered to the door by the milkman—usually at the fixed rate of one a week. At the same time, this establishes for the premium giver one of the most desirable and essential conditions for premium promotions of this type—that is, *continuity*. This is true because when cottage cheese has appeared regularly on the consumer's table for a two-month period, sufficient buying and use pattern has been established to assure repeat sales long after the premium promotion has ended. The "good will"

(*This article continued on page 174*)

PROMOTION LITERATURE, provided by the tumbler manufacturer, is distributed by the dairy routeman. Some of the markets have bought more than one aluminum tumbler per capita during a single eight-week campaign.

Polyethylene film conquers tarnishing of ribbon tinsel



Polyethylene film, now in such short supply, has been found successful for preventing the tarnishing of tinsel ribbon in the same manner as it protects sterling silver. For years ribbon tinsel has been defying industry's efforts to get it to the counter and keep it there in a salable condition. Bulky packages with no eye appeal seemed requisite to the job until Royal Swan, Inc., (Ribbon Division of Burlington Mills) switched to fabricated pouches of controlled-extrusion polyethylene film. The new packages are reported to have passed rigid tarnish tests with flying colors. The new transparent packages thus do double duty by displaying the product without exposing it to the causes of tarnish. Three dozen hanks of the ribbons are inserted into the pouches by hand, then heat sealed.

CREDIT: *Polyethylene pouches (Shellene), Shellmar Products Corp., Mount Vernon, Ohio.*

Die-cut sleeve points up essential selling feature

A seemingly simple packaging device can often be used to emphasize important new selling features that tie in with national advertising at the point of sale. A case in point is the display sleeve for a new Davol nurser bottle to be featured in *Life* in March. Most important feature of this new square-shaped, easier-to-regulate nurser is the use of easier-to-read, bright blue applied color (ACL) quantity markings on the bottle. By means of a slanted, die-cut oval in the sleeve, the markings are made clearly visible to the shopper. Calculated placement of the sleeve over this feature also forces the dealer to display the nursers with the markings, which are on the back of the bottle, toward the customer. Colors for the sleeve are two shades of clean-looking blue. Another trick is the rolling up of insert directions inside the bottle, so that only a white blank side is visible, giving the suggestion of a full bottle of formula, the company says.

CREDITS: *Designers, Lippincott & Margulies, New York. Sleeves and inserts, Brooks Bank Note Co., Springfield, Mass. Bottles, Owens-Illinois Glass Co., Toledo, Ohio.*

HISTORIES

Cracker carton with a convenient telescoping reclosure

A further convenience for the popular four-in-one, individually-wrapped ¼-lb.-unit biscuit package is a new-type folding carton for a 1-lb. pack of Baker Boy crackers introduced by the Sawyer Biscuit Co. The former printed overwrap is replaced by a completely glue-sealed carton, while a perforated end becomes a telescoping closure or cover for the package, once it is opened. The perforation encircles the package 1½ in. from the end. Line drawings show the user how to (1) Break through perforation, lift top . . . remove one package of crackers; (2) Press in corners at arrow points as illustrated; (3) Replace lid. Varnished surface is said to eliminate need for waxed overwrap and direct printing assures brand identity until package is discarded.

CREDITS: *Reclosure-style carton, Chicago Carton Co., Chicago. Glassine wraps, Rhinelander Paper Co., Rhinelander, Wis.*

Foil labels give quality appeal to famous old brand

Paul Jones Whiskey has been available to the American public since 1865. Now, to highlight its record merchandising campaign for "The Finest Paul Jones in Five Generations," Frankfurt Distillers Corp. has developed distinctive new bottles and labels to give Paul Jones the smart appearance deserving of this long-established quality brand. New amber bottles have been adopted for quarts, fifths and pints. The two former sizes with wider shoulders and sloping sides replace the old straight-sided bottle with anchor-design. The pint bottle has the characteristic Paul Jones four-stars designed in the mold. The new labels of paper-backed aluminum foil are printed in dark brown and gold-colored lacquer with white lettering of trade name. The familiar Paul Jones trademark illustration is silhouetted and embossed. Foil neck wraps carry the Paul Jones signature.

CREDITS: *Foil labels and neck wraps, Foilcraft Printing Corp., Brooklyn, N. Y. Bottles, Owens-Illinois Glass Co., Toledo. Closures, Armstrong Cork Co., Lancaster, Pa., and Owens-Illinois. Designer, W. Terrell Dickey, Louisville, Ky.*

Louisville

PREPARED by advance advertising and literature, a Louisville housewife greets the routeman as well as the new square, compact milk bottle with enthusiasm.

Rising product costs in the last 10 years have forced milk bottlers to an acute appreciation of packaging costs.

The trend to weight- and space-saving advantages of the squat, square bottle began in the early '40s. Bottle openings have been shrinking steadily—from the original standard 56 mm. down to as small as 38 mm.—as dairymen realized that smaller openings meant lower closure costs. The two-piece, plug-and-cover type of closure has steadily been replaced by the less-costly, one-piece cover cap, which meets modern health-department requirements and is particularly well suited to the smaller finishes. The fast, single-capping operation with the modern closure has in many cases doubled the speeds of bottling lines. Finally, most metropolitan milk markets have installed cooperative bottle exchanges and tried to make their bottle styles as universally interchangeable as possible.

But nowhere, until last July, had any major market been able to get together on a single, completely uni-

THIS IS THE CAP that started it all. The semi-rigid 38-mm. closure, crimped on like a crown cap on a soda bottle, is of unannealed heavy aluminum foil with a waxed-paper liner. Cap snaps off with upward pressure of thumbs resting on bottle "bumper," and snaps back for restorage. Bumper roll in bottle neck provides convenient hand hold and helps protect closure.

milk move

ECONOMIES ARE DEMONSTRATED AS ENTIRE MARKET CHANGES OVER TO UNIVERSAL SQUARE BOTTLE WITH SINGLE-OPERATION 38-MM. CLOSURE

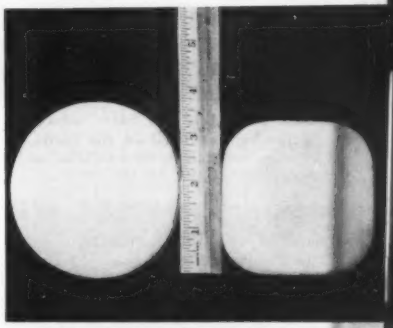
versal bottle and cap, combining all these modern advantages—throwing out all of the old and switching simultaneously and completely to the new.

Now it has been done in Louisville, Ky., a market of a half-million consumers using 300,000 bottles of milk daily from 33 dairies. The results are so impressive that other major milksheds are expected to follow suit—although it is possible that the trend will be interrupted by the current national defense situation.

Reasons for change

The smooth and efficient manner in which the Louisville change-over was effected provides a lesson for packagers in many other fields who are perennially worried about the problem of a market-wide change of packaging.

Louisville had the advantage of an existing local dairymen's organization ideally set up to handle details of the conversion. Milk for Health, Inc., was formed by the 33 dairies in 1941 to effect a savings in milk distribution by collective action. In its first year the association handled the market conversion from the tall, round to the squat, teardrop 17¾-oz. bottle, which had, up to now, been a universal bottle for Louisville, bearing only the "Milk for Health" emblem molded in, with the individual dairy's identification on the closure. The principle of the universal bottle was, therefore, well established—but the bottle lacked the space economy of the full-square shape; the 56-mm. opening re-



BOTTOM VIEW of old round and new square bottles shows saving in shelf space that makes eight of new fit in the same area needed for five of old bottles.

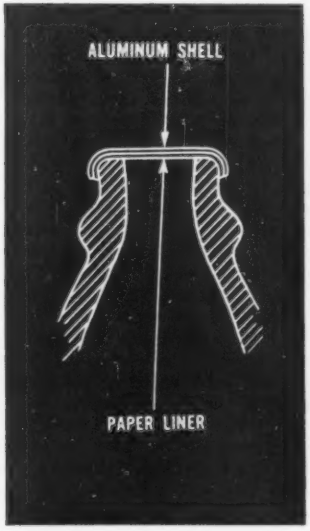
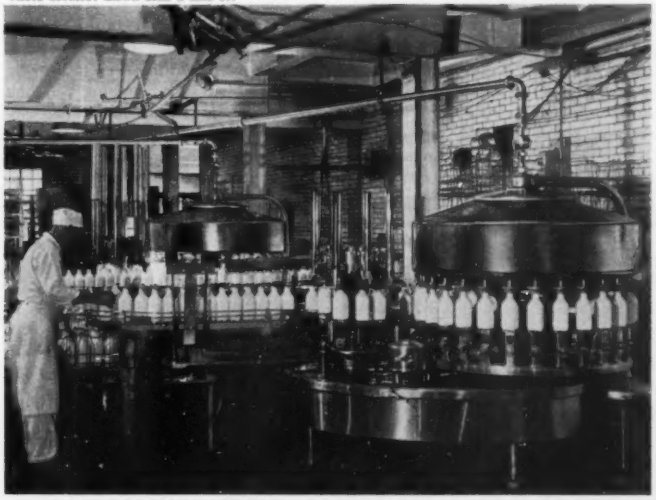


PHOTO COURTESY CROWN CORK & SEAL CO.



BOTTLING IS SPEEDED by the simplicity of 38-mm. cap, which is applied by simple attachment shown (with upright cap hoppers) at the left side of these fillers operating at the Ewing-Von Allman Dairy. A great deal of valuable plant floor space is conserved by this new bottling procedure.

Other types of 38 mm. milk-bottle caps

ALL PAPER is this heavy waxed-paper cap, crimped on the bottle.
PHOTO COURTESY AMERICAN SEAL-KAP CORP.

ALL-ALUMINUM type is heavy foil brightly printed with brand name.
PHOTO COURTESY ECON-O-SEAL CO.

FOIL-AND-PAPER combination has two layers of paperboard, foil between.
PHOTO COURTESY STANDARD CAP & SEAL CORP.

quired relatively expensive closures of the two-piece, plug-and-hood type and closure practices were by no means uniform.

There were other factors. Because of population increases and increased consumption of milk, Louisville dairies were running out of plant space. It seemed logical first to achieve the 20-to-30% space saving afforded by the modern square bottle before embarking on an ambitious rebuilding and expansion program. Officials of Milk for Health visited dairies throughout the country and looked at every type of square bottle, with finishes ranging from 56 down to 38 mm., before deciding on the smallest of these as being the most practical. Their conclusion was that the 38-mm. opening was the size most likely to be used in the future—would, in fact, ultimately be as standard to the milk industry as 26-mm. is to the beverage and beer industries.

It was obvious that caps to fit the 38-mm. bottle would be smaller in size and less expensive than those required for any larger-sized bottle. The actual figures show that a square foot of material will provide 41 of the 38-mm. caps as against 24 of 48 mm. size, for a saving of at least 15 cents per thousand—which, for a dairy processing 50,000 bottles a day, amounts to $2,700 a year. The 38-mm. cap can be applied by a simple capping head attached right to the filler. The elimination of a second capping operation is said to cut bottle breakage by 60 to 70 per cent.

Until the Louisville conversion, the 38-mm. cap was manufactured only by one Baltimore closure company, which pioneered this style as well as the bottle that goes with it; now there are four suppliers of the caps and five suppliers of bottles to the Louisville market.

The new Louisville standard bottle is given increased practicability by a heavy "bumper roll" of glass molded in near the top of the neck to provide an easy hand grip, avoiding handling strain on the closure itself. The closure is variously made of foil and paper, foil alone or paper alone; it comes either partially pre-formed, or as a small, flat disk and is applied and crimped over the bottle top much as the familiar metal crown closure on beverage bottles.

July 17—a date when consumer demands are at a low ebb—was fixed as the target date for the change-over and individual dairies arranged in advance for the installation of new filling and capping machinery or the modification of existing equipment. A few years ago most dairies were pushed to reach a filling speed of 100 bottles a minute. Now it is not uncommon to run 120 to 130 a minute and some have progressed to 160 and 190 a minute.

All Louisville milk bottles are and have been the property of Milk for Health, which assesses dairies a rental charge of 35 cents per hundred gallons of fillage. Thus the cooperative had built up, since 1941, operating funds nearly sufficient to pay for a complete new set of bottles.

To cover the average figure of 300,000 bottles delivered daily, a combined bottle float of approximately 1,800,000 bottles is required. Fred Flynn, secretary of Milk for Health, made the arrangements with bottle suppliers. A central exchange area was set up and as each dairy returned round bottles it was given credit against the square bottles.

Some of the old bottles were broken up and sold as cullet; others were shipped crated for use in another market. For those dairies having insufficient space at their own plants to handle the bottle sorting and exchange, a route foreman was assigned as checker at the central exchange yard and made an actual count of each case of old bottles as it rolled on a specially constructed conveyor from the truck to the scrap heap; cases were returned on another conveyor and reloaded into the truck.

Those dairies able to handle the exchange operation themselves received the temporary corrugated cases containing the new bottles at their plants, removed the bottles, refilled the cases with old bottles and sent them to the association's ware-

house, where they were duly credited.

It is interesting to note that these corrugated trays held 24 of the new bottles, but would accommodate only 18 of the old-type bottles.

For permanent delivery cases, the Louisville market has at the same time standardized on a wire delivery case, specially designed for the new square bottle, which is smaller, lighter and easier to handle. The new case for 12 quart bottles measures 15 by 11¾ in.; the old one, 17¼ by 13½. The change-over involved 40,000 of these cases.

Consumer advantages

A promotional program was put into effect in advance of the conversion and literature pointing up the conveniences was placed in the hands of consumers. The dairies placed newspaper ads showing the advantages and features of the new cap and container. Drivers on milk-delivery routes were provided with advertising material to be issued to home customers.

Many consumers, nevertheless, were slow to recognize the benefits of the new bottle. Housewives believed that a slower pouring would result from the smaller opening. If the change had been a slow and gradual reduction in size, this minor complaint would no doubt have been unnoticed. The consumer has since realized that the complaint was, in truth, unfounded.

The space-saving feature of the new bottle in home refrigerators was soon apparent to the customer. Eight of the 38-mm. bottles will fit into the same space that formerly held five of the old round type. The housewife found, too, that the new bottle was easier to grip and consequently easier to pour.

The selection of closure had been left up to the individual dairies. Some used the all-paper type, others employed the heavy aluminum foil or a combination of the two materials. However, with either type the consumer soon found sanitary features in the 38-mm. bottle and closure that were not possible with the old package.

The tight seal of the single closure kept out contamination and preserved flavor and freshness in the refrigerator. Once opened, the bottle could be tightly resealed by finger pressure on the cap and the liquid could be used down to the last drop with complete protection from pick-up of refrigerator odors. The housewife had accepted seepage from her old-style bottle as a necessary hazard, but the single closure seemed to eliminate this danger. Even if the bottle was tipped over accidentally, the milk would seldom spill or seep out.

It is apparent to the housewife that the pouring lip of the bottle is completely protected from plant to home; no hand can touch any part of the pouring surface. The "bumper roll" provided on the neck of the bottle as a grip for carrying helps to safeguard this protection.

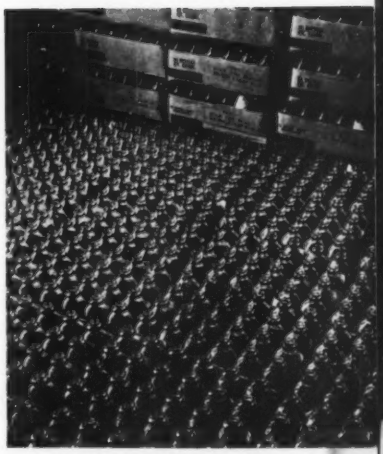
Retailer benefits

Merchants, too, have realized many benefits from the new container and case. Plagued by space problems, the retail merchant welcomed the immediate economy in storage area resulting from the smaller space occupied by the square bottle and case. The overstocked walk-in refrigerator of the merchant gained extra space for other products.

Dairymen's gains

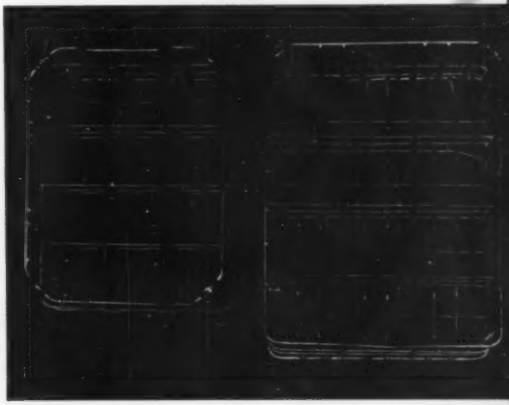
In addition to the basic advantages, there are several minor points of advantage to the dairyman which, in sum total, become important.

To allow for expansion when refrigerated milk warms up during delivery, a certain amount of space must be left below the closure. With the old plug-type cap, itself extending nearly ¾ in. into the bottle, this unfilled space measured more than half an inch from the top of the bottle when the housewife took a cold bottle from the refrigerator and removed



INITIAL ORDER for the new bottles to permit simultaneous change-over comprised 10,000 gross of the quart size alone.

MOUNTAIN OF CULLET results from decision to scrap large portion of round bottles. Others were shipped to other markets.



SPACE-SAVING in the delivery truck is demonstrated by this comparison of old (right) and new dozen-quart cases. The new small wire case has been made universal in the Louisville market, along with the universal bottle.

the plug. This led to complaints of underfilling and, to avoid complaints, most dairies deliberately overfilled ¼ in.—thus giving away three quarts of milk in every thousand and risking expansion seepage under warm weather conditions.

With the new closure, however, since the sealing plane is the top of the bottle itself, the milk level appears only ⅜ in. or less from the top. Both overfilling and complaints are eliminated.

Louisville milk-plant bottling lines are now operating at a faster rate and allied operations have similarly speeded up. Bottle washing, pasteurizing, loading and other steps in dairy operation have decreased in time expenditure.

Many of the Louisville dairies, realizing that the conversion offered opportunities for time saving all along the line, decided to replace slow, outmoded machinery and equipment. If minutes and hours were going to be saved in the bottling operation, their whole production capacity had to be geared to the increase. Although a wholesale change-over to new bottling machinery is definitely not necessary with the square bottle and its closure, minor modifications were generally made.

Dairymen employing either vacuum or gravity fillers found that the new container permitted faster filling than was possible with the long-neck bottle. Delays at the capping head were eliminated.

Increases in population and a growing demand for milk products were taxing Louisville milk distributors and many plants were operating at an almost maximum capacity before the conversion. To meet further consumer demands would have meant that some dairymen would have been required to enlarge plant areas to accommodate this growing demand. With the change-over to the modern container, dairymen reported savings of as much as 20 to 30% in plant space, thus permitting them to operate with considerably more efficiency in existing space.

Savings have been possible not only in plant interiors and equipment, but in reduced rolling-stock maintenance costs.

The reduction in weight of the cases and bottles has taken extra loads off delivery vehicles. Greater economy of space in the vehicle has resulted and more cases can now be loaded on each truck. One operator found that a truck making a wholesale delivery run was able to accommodate 327 cases, where before only 246 cases could be handled.

Less breakage has been found to be a favorable factor as a result of the conversion. Because of the square shape of the bottle and snug fit in the milk case, trippage figures are on the upswing.

As important as anything else in production efficiency has been the increased efficiency in personnel performance.

Bottling-line operators and sterilizing and refrigerator-room operators have found that the lessened weight, a consequent lowering of stack heights and all-around easier handling of the new containers are of great benefit in reducing fatigue. Drivers have found, too, that these same features assist them in performing their duties more capably. The conversion has, in general, found as much favor with the dairy-plant personnel as with the public.

CREDITS: *Bottles, Lamb Glass Co., Mt. Vernon, Ohio; Liberty Glass Co., Sapulpa, Okla.; Owens-Illinois Glass Co., Toledo; Thatcher Glass Mfg. Co., Inc., Elmira, N.Y.; Universal Glass Products Co., Parkersburg, W.Va. Closures, American Seal-Kap Corp., Long Island City, N.Y.; Crown Cork & Seal Co., Baltimore; The Econ-O-Seal Co., Indianapolis; Standard Cap & Seal Corp., New York. "Cemac" filling and capping machinery, Crown Cork & Seal Co. Delivery cases, Barker Equipment Co., Keosauqua, Iowa.*

Amber bottle for Borden's fortified milk

EXTRA FLAVOR PROTECTION is claimed for amber milk bottle which screens deleterious rays.

Sales increases ranging from 25 to 33% are reported by The Borden Co. in market trials for its vitamin-mineral-fortified milk packed in new, dark-amber glass bottles. The dark glass, an abrupt departure from the traditional clear-glass container, was adopted as the result of considerable research to provide extra protection for vitamin-mineral-fortified milk.

Exclusion of light rays, according to studies at several universities, was found important in preserving flavor and nutritive value of premium-quality milk. Accordingly, glass manufacturers undertook development of a bottle that would exclude harmful rays of light.

The result for Borden is its new amber container used for "Gail Borden Signature Quality" milk. This vitamin-mineral-fortified product received its first marketing trials in Phoenix, Ariz., and in Oklahoma City. Consumer acceptance is said to have exceeded expectations. The amber bottle is now being made available in various towns in Connecticut.

Introduction has been market by market because the supply of bottles was limited. Promotion has been strong and consists of newspaper advertising and direct communication with physicians and health authorities. The response is said to be excellent, with one physician replying that the new amber bottle makes the "best looking food package" he's seen.

Surface marking on the bottle is applied color lettering and a cameo profile, both reproduced in white. Closures vary according to the local dairy; aluminum foil caps are used in most instances.

CREDIT: *Bottles, Owens-Illinois Glass Co., Toledo, Ohio.*

"PULL HERE" says the tag attached to end of door-gasket coil, and that's all the service man has to do to get the required length for an installation job. Remaining stock stays protected from light and grease. Note perforated flap on top which can be opened to check remaining footage.

WITHDRAWN in lengths as required, the coiled gasket material is gripped by the die-cut slits in the box so that cut end is held ready for the next use. The box can't roll away, like unprotected spools did. This is one package that need never be opened.

Dispenser carton

NEW PACKAGE WITH A CONVENIENT SLOT

SCORES A BIG HIT FOR UNREELING COILS OF AUTOMOBILE DOOR GASKET

That there are challenging new frontiers in packaging even for bulky "service" products not sold directly to consumers, is evidenced by the ingenious dispenser carton Durkee-Atwood Co., Minneapolis, has adopted for its Molded Dor-Tite Gasket.

This product, a sponge-rubber gasket used to stop rattles and leaks in automobile doors and trunks, is wound in coils and is ordinarily a clumsy product to handle. As with many products not intended for retail distribution, there has long been a tendency to ignore potential advantages that packaging can contribute to such an item. This disregard is not limited to products of this type, but extends to many other fields where packaging is not a first requisite and where packaging opportunities for providing better protection or additional convenience are not recognized as a potent means for creating demand and influencing repeat orders.

The Durkee-Atwood new dispenser-type package grew from the realization that packaging designed to serve the user is also a good way to assure increased use of product.

Simple in design, the package permits easy pull-out of the gasket in just the right quantity needed by the car serviceman. The cubical carton of kraft-backed bleached Manila feeds the gasket out through a radial die-cut opening which maintains a constant clutching action. It also protects the gasket against sunlight, dust and grease. It eliminates the possibility of the coil rolling away while the gasket is being unwound. It is easy to stock and is economical in cost.

The only special equipment used in packaging the gasket is a power-driven spinning unit that consists of a cone-shaped core and sleeve.

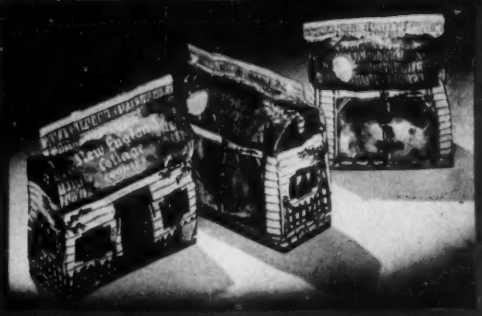
After the gasket is formed in a multiple mold, it is slit into strips and pre-cut to length. A thread is looped through one end of the gasket preparatory to the spinning operation. The coiled material is then transferred by hand to the package, which has been set up on a jig. After the starter thread has been drawn through the die-cut opening, a tag is affixed for starting the pull-out.

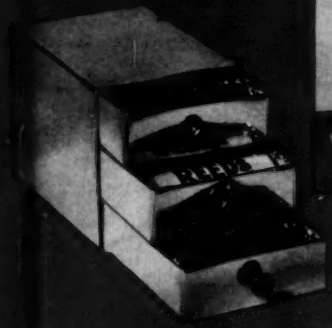
Two sizes of packages are used, a 7¼-in. carton for door types, and a 9¼-in. carton for trunk types, each printed in red and blue. Door types are packed in 50-ft. lengths, and trunk types in 50-ft. and 35-ft. lengths according to size of the gasket.

An added package feature is a push-in flap which permits the user to check the amount of remaining footage. Use instructions and sales features are printed on the package, which also performs the important function of maintaining product identity through storage and use.

The serviceman's customer also benefits from the advantages afforded by the package, though these benefits are intangible and can only be added up in terms of good will for a gasket installation that is done without delay and will prove more satisfactory because quality materials were protected from grease and sunlight which might have caused deterioration of the gasket before installation.

CREDITS: *Carton, Globe Paper Box Mfg. Co., St. Paul, Minn. Pull-out tag, McGill Co., Minneapolis, Minn.*





PACKAGING

1 No package can escape change. The Ocu-Lav carton with black and white line illustration of the bottle, which served the company for 25 years, has been replaced by a completely modernized two-color printed carton, using a light, clean green with black. The new design introduces an "eye" drawing to convey quickly the end use of the product as an eye wash. Bold treatment of trade name gives it a better chance to be seen. Designer, Robert I. Goldberg, New York. Cartons, Acme Folding Box Co., Inc., New York.

2 Bags that look like miniature Cape Cod cottages emphasize the "down east" character of Mrs. Bentzen's New England Cottage Cookies. The duplex cellophane bags are reverse printed in red, green and yellow. Clear spaces for windows provide product visibility. Square-bottom bags are sealed across the top to give "roof" effect. Cellophane bags, Shellmar Products Corp., Mount Vernon, Ohio (South Gate, Calif., plant). Rotor-Sealer, Ralph Chaffee & Co., San Francisco, Calif.

3 This three-drawer chest of folding-box construction is made of now hard-to-get aluminum foil, gold colored, and laminated to paperboard. It makes an interesting reuse gift container for small packages of Reed's flavored candy drops, four to each drawer—thereby encouraging multiple unit sales. Carton, United Board & Carton Corp., Syracuse, N. Y.

4 A specially strengthened inner base and a four-ply "sandwich" of extra board protect and cushion the top of this specially engineered corrugated shipping container for a cellar draining pump manufactured by The Deming Pump Co. The drainer is rigidly anchored to withstand rough handling that might otherwise damage its outer frame and delicate inner mechanical parts. Container, Hinde & Dauch Paper Co., Sandusky, Ohio.

5 A new idea in hosiery gift-packaging is suggested by Roman Stripe's Valentine folder made of satin-like, rayon-acetate material laminated to paperboard, colorfully "Roman Striped." The cupid is silk screened in gold on die-cut heart over paper-lace doily. The folder is fastened by a flap and slot. Designer, Emily T. Oppa, New York. Laminated material, Facile Corp., New York. Silk-screening, Supreme Displays, Inc., New York. Package manufactured by Devon Products, Inc., New York.

6 Four-piece aluminum closures designed to protect hygroscopic products have been adopted for a large line of spices and condiments put out by A. Schilling & Co. They consist of an inner perforated sifter-type aluminum cap lined with a gasket and an outer long-flanged rolled-on cap fitted inside with a pulp liner. Closures and equipment, Aluminum Seal Co., Inc., Richmond, Ind., subsidiary Aluminum Co. of America. Labels, Schmidt Lithograph Co., San Francisco, Calif. Bottles, Owens-Illinois Glass Co., Toledo, Ohio.

7 Among the first users of a new vinyl-plastic coated ice-cream container is the Frank G. Shattuck Co. for Schrafft's ice cream. Principal advantage reported for the container is a reduction in shrinkage of ice cream. Other claimed advantages are (1) a smooth, slick surface for spooning out the ice cream and (2) protection of flavor and texture in storage. Nestyle container, Sealright Co., Inc., Fulton, N. Y., using Bakelite Vinylite.

8 The ubiquitous Hopalong Cassidy and his horse dominate the package design for Hopalong Cassidy Potato Chips, a new product of the 52-year-old Kuehmann Foods Co., Toledo. Packages include several sizes of glassine bags, a 10½-oz. box (not shown) and a 1-lb. lithographed tin with friction cover. Back panels and lid carry "Bar 20 Bulletin," devoted to premium offers. Promotion includes cowboy suits for truck drivers and trucks designed with Hoppy theme. Bags, Allied Paper Bag Corp., Baltimore, Md. Cans, Cans, Inc., Chicago. Folding boxes, Consolidated Paper Co., Monroe, Mich.

9 New shelf and eye appeal has been given to a soap famous for 89 years. Cashmere Bouquet now appears in a new pink wrapper. A national magazine advertising program will acquaint some 54,000,000 readers with the new package through color illustrations. Wrapper, Quadri-Color Co., Brooklyn.

10 Little glass vials measuring only 3½ in. to carry in the purse are being used by Prince Matchabelli for new purse-sized solid cologne sticks in three popular fragrances. The sticks are foil wrapped. Screw caps are metal. Vials, Kimble Glass Div., Owens-Illinois Glass Co., Toledo. Closures, Brass Goods Mfg. Co., Deep River, Conn. Foil wraps, Standard Rolling Mills, Inc., Brooklyn. Cartons, Warner Bros. Co., Bridgeport, Conn. Decorating on vial, T. C. Wheaton Co., New York.

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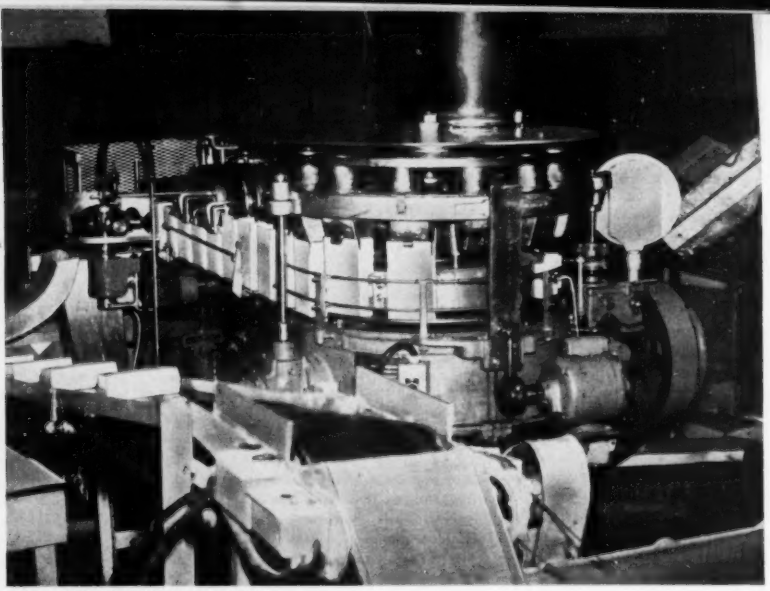


PHOTOS COURTESY CEDERGREEN FROZEN PACK CORP.

ROTARY FILLER with 12 spouts in foreground revolves as up-ended cartons are filled and vibrated. Carton former is part of machine, not shown. Moving to left rear, cartons are closed and discharged at rates as high as 250 a minute, on belts to the overwrap machine.

Frozen foods speed-up

NEW MACHINE AND ECONOMICAL END-OPENING CARTON SLASH MANPOWER NEEDS AND PROVIDE CONTINUOUS HIGHER-SPEED OPERATIONS COMPARABLE TO CANNING

For a good many years, packers of frozen foods have sought the high-speed operation and automatic methods common in food canning. Insistent on cutting the costs of packaging for the retail trade, food freezers have sought some way to combine these three requirements: (1) an inexpensive carton, (2) automatic filling and (3) continuous high-speed operation.

With the present prospect of a national shortage of manpower, the manpower saving in further mechanization of frozen-foods packaging becomes equally as important as cost cutting in the view of most packers.

Equipment which, in the opinion of many authorities in the industry, may provide an answer to these problems, has just been announced by one of the major suppliers of frozen-food cartons, which designed the machine and supervised its construction for use in conjunction with a new type of end-opening carton.

Last season the package and machinery were thoroughly tested on production runs by—among others—the Cedergreen Frozen Pack Corp., at Bellingham, Wash. After studying the results of the season's operations, R. W. Day, veteran frozen-food man who is production manager for Cedergreen, declares that, "It is a practical and definite step forward—a major contribution in lowering the cost of packaging." This opinion is supported by Norman Cedergreen, president and general manager of the firm, who reports that the machine has demonstrated a speed-up in production and a saving in labor that will "more than justify the cost." It does "a very accurate job of filling and a perfect job of closing," according to Mr. Cedergreen.

The new equipment sets up the end-opening carton automatically, fills it automatically, closes it automatically with a lock-tab and operates at speeds of better than 200 containers a minute. The equipment operates only with free-flowing items, such as peas, cut corn and lima beans, but more peas are frozen than any other vegetable, and together the free-flowing items account for the largest part of the pack of frozen vegetables.

Cedergreen used the package at its Grandview, Wash., plant throughout the pea season, then moved the equipment to its Seattle plant for a brief run on cut beans. The equipment was then taken to California for trial on lima beans and was returned to Cedergreen's Wenatchee, Wash., plant for cut corn.

The cartons come to the packing plant as pre-formed, folded blanks. An operator feeds them into the forming machine by stacking blanks on end. A suction cup picks up the blanks, one at a time, and moves them along to the opening station. There, mechanical fingers insert into the carton, forming it against a die of the shape and dimensions of the finished package. The carton moves to the next station where the bottom is

folded and locked into place. The locking at both ends is mechanical, using a pre-formed slit and lock-tab; no glue is applied.

A moving belt carries the package to a multiple-spout filling head. Vegetables feed into the filling head through an overhead chute, pass into a large hopper and from there into individual filling cups. Measurement is volumetric. The entire filling head rotates, carrying on its outer edge the packages to be filled.

With 12 filling positions, each package remains under the filler long enough to obtain its full load in spite of the high speed of operation. For example, if the line is running at the high rate of 240 packages a minute, the filling head need revolve at the rate of only 20 per minute, giving each carton three seconds for filling.

The size of the individual cups is adjusted in advance according to the product that is to be run. A no-carton, no-fill safeguard prevents the spilling of vegetables if for any reason an empty carton is not in position. Vibrators operate under each package in order to insure complete filling.

Filled packages move along a stainless steel belt, gripped by flanges for stability. The same type of mechanism that locked the bottom then engages the top lock and closes the package.

Because no single wrapping machine now operates at a speed equal to that of the new filler, the filled packages are split into two lines for overwrapping.

It is notable that the entire operation, from the setting up of the package to the filling and closing is a continuous operation; the package does not stop anywhere along the line. Except for the mechanical fingers inserted to open the package for filling, there is no reciprocal motion.

The equipment requires two operators—one to keep the magazine of the forming machine filled with blank cartons and the other to be responsible for the over-all operation of the machine. A third person may be used, in some cases, for spot-checking the weights of filled packages.

Cedergreen actually operated the equipment at speeds as high as 250 packages a minute. In this case, the equipment supplied two overwrap machines and the excess of packages was put into cases for storage and later wrapping.

But for general use, Cedergreen found the best speed was 210 a minute, supplying two overwrappers but avoiding the extra handling in casing unwrapped packages. One of the refinements built into the machine enables the operator to cut the speed in half when either overwrapper is momentarily down for reloading.

In handling peas, Cedergreen operated the equipment on pre-frozen peas. Corn was packaged wet. Experience indicates that, either wet or frozen, the vegetables pack equally well. Unfrozen cut beans provided some problem, the result of "bridging" in the filling cups that supply the individual package. This problem is now being worked out.

The economies to the packer, according to Cedergreen, are twofold: first, the end-opening carton costs less than the widely used top-opening carton. This is because the end-opener has less container board, due to less overlapping in construction, and is somewhat easier to manufacture. Second, hand labor is substantially reduced.

Cedergreen is principally impressed with the economy in hand labor. As a matter of economical operation, Cedergreen for a number of years has used an end-opening carton, setting this up by hand. This required 12 women on each line to form, fill and close at a speed of only 100 packages a minute—or a total of 24 women for output equivalent to that obtained with the new equipment. In place of those 24, two—or at most three—persons now are used.

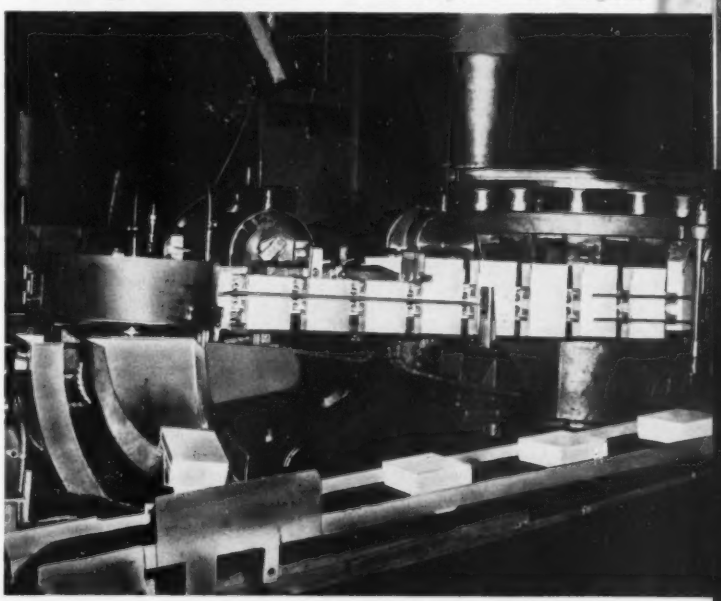
For packers accustomed to using the top-opening retail package and semi-automatic filling equipment, the economies of this development will be primarily in lower carton cost. Last year this saving for Cedergreen ran to $4 to $5 per thousand packages.

The new cartons also store economically. About 1,000 of this type of package can be stored in space required for 600 top-opening style.

Any saving in labor is viewed now by packagers as more than a matter of dollars and cents. It is a matter fundamentally of having, as the nation builds up its military strength, enough labor to operate.

CREDITS: *"Marapak" carton and equipment designed and supplied by Marathon Corp., Menasha, Wis.; machine manufacturer, Sprague-Sells Division, Food Machinery & Chemical Corp., Hoopeston, Ill.*

CLOSE-UP of closing and delivery stations. Two overwrappers are required to keep pace with this machine; hence cartons are divided at discharge into two lines, one on each side of machine, leading to the overwrappers. These photos show the actual operation at Cedergreen.



Ball-point revival

FISHER PEN CO. INJECTS SOME FRESH MERCHANDISING IDEAS AND BACKS THEM UP WITH EFFECTIVE PACKAGING AND DISPLAY

Coordinated package design and color treatment, coupled with ingenious use of packaging materials, is doing an effective merchandising job for the Fisher Pen Co., Chicago, manufacturers of ball-point pens and refill cartridges. The company's entire program is built around a specially developed Durilium metal point, which is said to make the pens leakproof, stop waste of ink and increase writing time per refill 187% by actual test.

Fisher's aggressive packaging and promotional approach is intended to accomplish three principal objectives: to sell the company's own line of pens, to sell the Durilium pen-point refills and (as stated in the refill direction folder) "to redeem the tarnished name of the ball-point pen."

Although all use the same basic point and ink cartridge, the Fisher pens are made in three price ranges for broad market appeal. The $1 pens, of plastic construction, come in several bright colors and are sold from an easel-type counter card. The $2 and $3 pens, made of metal, come in individual gift boxes. Refill cartridges, supplied with assorted adaptors permitting them to be used in more than 100 brands of ball-point pens, are sold from an opened set-up box having a poster-type riser card for display purposes.

One of the first problems facing the package designer was to break down the accumulated sales resistance created by the inferior performance of some types of ball-point instruments—leaking, smearing, clogging and uneven lines.

To instill the suggestion of quality, a trademark symbol was desired which would emphasize the fine, smooth, flowing line traced by the Fisher pen. It was decided that the graceful figure of a bird, drawn in one continuous line, created the desired effect. This new trade symbol is used on all of the Fisher packaging, with the exception of the gift boxes, and also on the company's letterheads, envelopes and business cards, giving the complete sales program unified impact. It will also be featured in the company's forthcoming small-space advertising campaign in several national magazines.

GRACEFUL BIRD design, drawn in continuous line, leads to open pen on new counter card for Fisher Pen Co.'s $1 pens. Bright colors of the instruments provide contrast with blue and gray printing on white card.

The $1-pen counter card is so designed that the unbroken line forming the bird appears to emanate from an opened pen mounted near the top of the card. Just beneath this is a closed pen, illustrating its compactness when capped for purse or pocket. To give more vigor to the bird design, which is executed in blue, a duplicate line in gray is offset beside it, providing a third-dimensional effect. Both pens, mounted on a slant, direct the eye to the main selling copy.

The base of the counter card is die

cut and folded to form a step arrangement with slots holding 11 more pens. Their brown, green, blue, red and black barrels contrast pleasingly with the bright white board and blue and gray printing.

The counter display card may either be stood upright on the counter or hung on the wall through an opening provided near the top.

For the $2 and $3 pens, an individualized "gift-packaging" approach is used. Decorative embossed blue paper forms the wrap for a set-up hinged-cover box, with the opened pen secured to the platform by means of two elastic bands. Gold paper on the inside cover of the box, overprinted in blue, permits the gold to show through in the design and gives the package a quality look. A gold line weaving through the rectangular name plate suggests the writing ease of the Fisher pen.

The pen-refill card and box team up to do a powerful bit of silent selling. Fisher executives point out that the millions of dried-out ball-point pens lying dormant in desk drawers all over the country represent a vast potential market for refill cartridges which has never really been tapped. By devising special adapters which permit the Fisher refill to be used with most types of ball-point pens on the market, the company is making a strong bid to obtain this additional business.

For the pen-refill display card, the Fisher bird is again used, with the unbroken line continuing outward and upward to frame the main body of the copy. The heading, boldly handled to insure attention, is followed by an unconditional guarantee and explanatory copy which are reversed on a gray background at the bottom of the card.

The colors are gray, blue and red on white board, varnished. Two die-cut slots at the bottom of the card permit it to be inserted tightly between the body and cover of the opened set-up box in which a dozen cellophane-wrapped refills are displayed. On the back side of the card are illustrated instructions to assist the sales clerk in fitting the refills to various makes of pens.

The sealed cellophane packages include, in addition to the refill cartridge and three adapters, a clearly illustrated folder showing how to fit the refill to most standard types of ball-point pens. Printed in "pen-line" blue to match that used on Fisher packages and counter cards, the folder is so designed that the top portion forms the label for the refill package. This display heading is in blue reverse, with the bird and identifying copy in white. The folded insert provides a firm foundation for the sealed cellophane overwrap which completes the package.

With Fisher's coordinated packaging and labeling program, potential sales obstacles—such as adapting the refill unit to different makes of pens—have been effectively anticipated. And dealer response to the new packaging program, according to Paul C. Fisher, president of the company, has been excellent. Since the introduction of the $1 pen card, the company has been "overwhelmed" with new orders.

CREDITS: *Packaging design, Richard M. Franz, Milwaukee. Dollar-pen card and refill card, American Coating Mills, Division of Owens-Illinois Glass Co., Toledo, Ohio. Blue set-up box for refill packages, Stein Bros. Paper Box Co., Chicago. Cellophane envelopes for refill package, Humitube Mfg. Co., Peoria, Ill. Gift package for $2 and $3 pens, Merle Sears Paper Box Co., Danville, Ill.*

REFILL BOOSTER is designed to get millions of dried-out ball-point pens back into use. Refill cartridges and adapters are sealed in cellophane envelopes, with the folded instruction sheet forming both label and stiffener for the package. Slotted counter card, featuring 50-cent price of refill, fits between halves of opened set-up box. Fisher's $2 and $3 pens are in blue hinged gift boxes printed in gold. The symbolic bird design is carried through to the company's stationery.

They're all getting into the act!

—and sharing one of the biggest successes in recent packaging history!

On these pages you see a list of the converters and machinery manufacturers now profiting by the increasing demand for **Pliofilm.** It's a list that's constantly growing as acceptance of this transparent packaging film becomes more widespread.

If your name isn't already in this line-up, get all the facts now on this quality-protecting, sales-building material that affords superior moistureproof protection. Write: Goodyear, Pliofilm Dept., Akron 16, Ohio.

CONVERTERS

The following converters are equipped to perform the services listed below:

PRINTERS, LAMINATORS AND FABRICATORS

Dobeckmun Company, The
Box 6417, Cleveland, Ohio

Milprint, Inc.
Milwaukee, Wis.

Oneida Paper Products, Inc.
10 Clifton Blvd.
Clifton, New Jersey

Shellmar Products Corp.
Mt. Vernon, Ohio

Standard Cap & Seal Corp.
629 Grove St.
Jersey City, N. J.

Traver Corporation
358-368 West Ontario St.
Chicago, Ill.

U. S. Envelope Company
Kellogg Container Division
21 Cypress St.
Springfield, Mass.

PRINTERS AND LAMINATORS

Nashua Gummed & Coated Paper Company
Nashua, New Hampshire

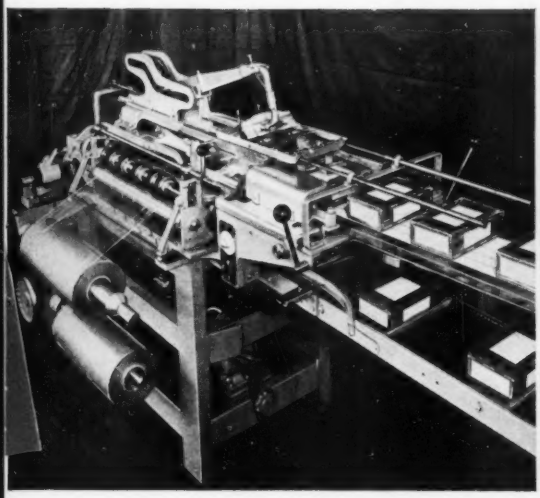
FABRICATORS

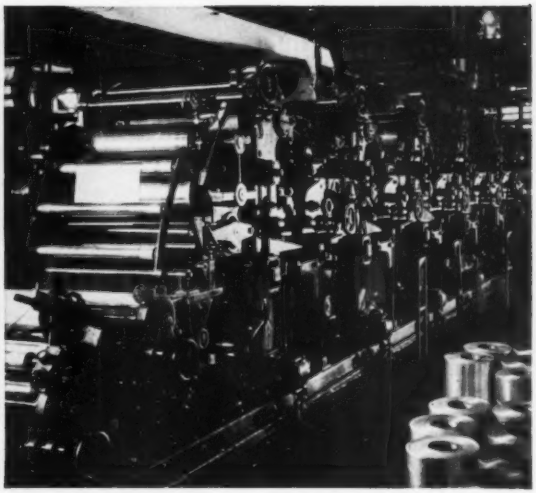
American Bag & Paper Corp.
Water & South Sts.
Philadelphia, Pa.

Benj. C Betner Company
Devon, Pa.

PACKAGERS!

If you're not yet using **Pliofilm,** get in touch with any of the suppliers listed here.





Central States Paper & Bag Company, Inc.
5221 Natural Bridge
St. Louis, Mo.

Cincinnati Industries, Inc.
519 Station Avenue
Cincinnati 15, Ohio

Comet Envelope & Paper Company
5 E. 17 St.
New York, N.Y.

Denton Corporation, The
2124 Livingston St.
Oakland, Cal.

Kenneay Car Liners & Bag Co., Inc.
Shelbyville, Indiana

Pen-Mac-Nye Company
111 West Center St.
Akron, Ohio

Sodorff & Biehl
6569 Fourth Avenue
Seattle, Wash.

FABRICATORS AND LAMINATORS

Western Products, Inc.
Newark, Ohio

LAMINATORS

Floyd A. Holes Company
100 Northfield Rd.
Bedford, Ohio

Irvington Varnish & Insulator Co.
Irvington, N. J.

Standard Cap & Seal Corp.
General Felt Division
68 35th Street
Brooklyn, N.Y.

MACHINERY MANUFACTURERS

The following are prepared to supply original equipment, or to convert your present equipment to **Pliofilm** packaging:

OVERWRAP MACHINES

Allbright-Nell Co.
5223 Southwestern Blvd.
Chicago 9, Ill.

Globe Company
4000 South Princeton Ave.
Chicago 9, Illinois

Hayssen Mfg. Company
Sheboygan, Wis.

Lynch Corporation
Package-Machinery Division
Toledo 1, Ohio

Oliver Machinery Company
Grand Rapids 2, Michigan

Package Machinery Co.
East Longmeadow, Mass.

BAGGING MACHINES

P. H. Diffenbaugh Co.
2903 Hall St.
Dallas, Texas

Roto Bag Machine Corp.
310 East 22nd Street
New York, N.Y.

Shumann Equipment Co.
1200 E. Carson St.
Pittsburgh, Pa.

Simplex Packaging Machinery, Inc.
615 23rd Avenue
Oakland, Calif.

Stokes & Smith Co.
4900 Summerdale Ave.
Philadelphia 24, Pa.

Transparent-Wrap Machines Corp.
Henry St. & Route 17
Hasbrouck Heights, N. J.

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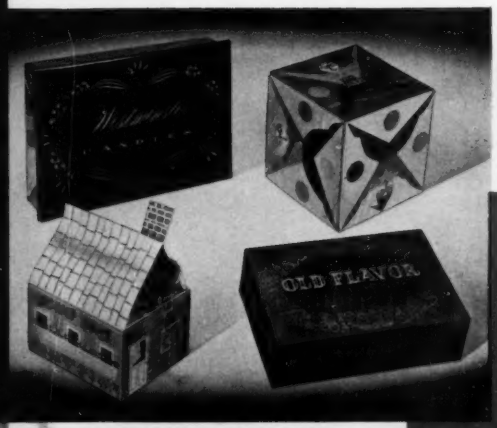
GOODYEAR
GOODYEAR
PACKAGING
FILM

Pliofilm, a rubber hydrochloride—
T. M. The Goodyear Tire & Rubber Company,
Akron, Ohio

Candy with



1. THEORETICAL PACKAGES designed by Philadelphia Museum School of Art students exhibit freedom of expression not always found in commercial packaging. Confectionery packaging was assigned them because of design latitude in this field.

2. HUMOR is direct and straight-forward in its simplicity. Only check on imagination of these future package designers is production practicality. The students haven't had to compromise.

In creating imaginary designs, the student designer—unhampered by the inhibitions of later business compromises—often comes up with a freshness lost by the seasoned designer.

The student may indulge his fancies. He has never bumped against a president who doesn't like a certain design because he doesn't like a certain color, or a production department which says the design will cost too much—or consumers who prefer a "corny" package when the designer wants to make something in good taste.

Industry can gain inspiration by looking occasionally at some of these student ideas, such as the interesting group of designs for confectionery packages recently sent to MODERN PACKAGING by Guy Fry, president of the National Society of Art Directors and art director of Gray & Rogers, Philadelphia. They were prepared by the students of Philadelphia's Museum School of Art.

Says Mr. Fry: "Much has been done to promote original thinking in package design by the country's leading art schools. The designs shown in the accompanying photographs attest to the vigor and eye-appealing qualities that are inherent in designs prepared under favorable conditions.

"In the classroom, the student is urged to let his imagination have full play . . . then use his knowledge of production to bring it within the range of practicality. By letting down the bars as far as idea and technique are concerned, the student's mind and hands are freed to turn out a lively, fresh and appealing design that will in many cases end up on the candy counter as a compelling item."

Candy boxes were chosen for the assignment because of the comparatively few restrictions they impose on the designer's imagination. Confectionery packages, according to Mr. Fry, have offered exciting opportunities to designers ever since candy manufacturers realized the importance of dispensing bonbons in fancy wrappings.

The pleasing overtones of romance, nostalgic memories and the physical properties of the candy store lend an air to the industry that makes it an attractive one for the designer to serve. A natural display potentiality is perhaps more apparent in this than in any other field, with the exception of cosmetics. The latitude offered by this wide market is also an added incentive to be a little more daring in design than is possible elsewhere.

The students' designs illustrate these principles. The lollipop packages shown in Figs. 1 and 2, for instance, show two totally different concepts—both quite imaginative, but equally effective. The miniature house captures the fancy of the shopper because of its Lilliputian dimensions. The unusual arrangement of design elements and lettering of the word "lollipop" would make the other package stand out on any counter—with appeal for young and old.

Humor finds its way into the gaily wrapped theoretical package suggested for the Gimbel box of Christmas hard candies and the "Pix Hallowe'en Mix" (Fig. 2)—not haphazard humor, but a smart and sprightly

imagination

INDUSTRY CAN PROFIT BY TAKING A LOOK AT THE FRESH APPROACHES REVEALED IN WORK OF STUDENT PACKAGE DESIGNERS

3. ORIGINALITY is given play for suggested Barton's kiddie package. Early American package has old-fashioned appeal, yet is given a completely modern appearance. All the packages have smartness.

4. FORMAL DESIGN with imaginative approach is illustrated by fruit slice and taffy packages. Severity of primitive symbols on licorice box are forceful as childhood memories of product.

concept that is fun yet maintains a certain restraint.

The design for the circus package (Fig. 2) goes right to the point and right to the heart of a child with its large elephant's head sprawling across the face of the package. It has shelf appeal aplenty when reproduced in gay colors.

The suggested package for "Klee Candies" (Fig. 1), the "Barton's Kiddie Candy" (Fig. 3) and the "Fruit and Nut Egg" packages (Fig. 3) are unique examples of the kind of freshness needed in package designs. Each has an originality of concept that makes for the kind of interest retailers like on the candy counter.

The imaginary "M-M Party Pack" (Fig. 2) does in a formal way what some of the others express with humor. The design can catch the eye from across the store and yet be just as pleasing to look at when seen on the coffee table in the home.

The package with the "old-fashioned" feeling (Figs. 1, 2, 3) has not always been easy to design because of the pitfalls inherent in those words. Quite often the "old-fashioned" appeal turns out to be just plain "old" and uninteresting. The students have achieved a feeling of smartness in the several Early American designs shown in Figs. 3 and 4. While the young artists have delved into the past for design elements, they have not allowed the past to dominate the over-all modern effectiveness of the designs.

The students' ideas of packages for "Dumond's Fruit Slices" and "Townsend's Taffy" (Fig. 4) are other good examples of imaginative approach to formal design. Subtle suggestions of contents are obtained while achieving a high degree of attention through the simplicity of basic design elements. The design for "Minter's Orange Slices" (Fig. 4) falls into the same category. The primitiveness of the licorice box (Fig. 4) is as direct and forceful as childhood memories of the product itself.

"It is an encouraging thing to see this kind of work coming from our art schools," says Mr. Fry. "More is to be done in the sphere of creative design and it is hoped that more of this imaginative effort will be applied to the packaging field."

DISPLAY

A diamond-shaped identity sign has been adopted by Devoe & Raynolds Co. to be incorporated in all new dealer signs and to be used in all future point-of-sale material. White lettering on a red background provides good visibility. The Indian figure, Devoe's original trademark, fits neatly into the upper corner of the diamond. The Devoe name is set across the widest area of the diamond; the word "paint" just below it provides the display sign with quick recognition value. Design and signs, Kay, Inc., New York.

A halo effect is appropriately suggested by a counter display adopted for Pond's new Angel Face Mirror Case. The unit, shaped like a mirror, provides a central theme for window display of the product. Contrasting colors are suited to the approach of spring—a sea-green background with circles of white and black. An actual case is attached to the easel card to emphasize the convenient slimness of the take-it-with-you make-up case. Display, Oberly & Newell Lithograph Corp., New York.

E. R. Squibb & Sons is making this new floor merchandiser available to druggists throughout the country. Design features are the result of suggestions contributed by a large group of retailers. The unit was designed as an island display, but may be used in almost any store location. It occupies floor space only 4 ft. wide by 2 ft.-4 in. deep. Height is slightly more than 5 ft. The headpiece is transparent acrylic plastic inserted in solid maple. There are four graduated metal shelves. Shelf runner strips are grooved for convenient insertion of prices of various products displayed. Merchandiser, Kay, Inc., New York.

This counter card, designed to help introduce Northam Warren Corp.'s new product, Nail-flex, has a slot for full display and easy removal of 50 booklets containing general information about brittle nails and directions for use of Nail-flex. A cutout holds a jar of the product. Careful positioning of various elements on card makes for compactness and at the same time shows the jar at best attention-getting angle. Colors are red, black and white.

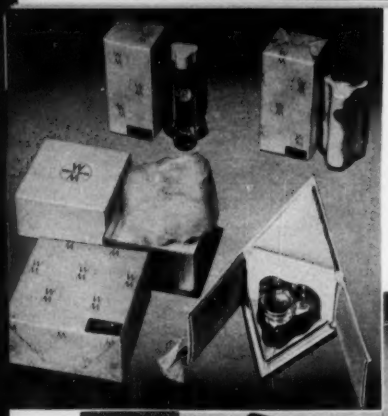
A 15-unit display carton with a whimsical motif designed for counters is used by the Glessner Co. for Drake's Children's Aspirin. Bottles with coated metal screw-type closures are individually cartoned. Bottle and carton employ traditional design to inspire confidence in the product. The display carton, on the other hand, suggests that the product is intended for children. Even the sides of the carton feature child illustrations. Display and individual cartons, U. S. Printing and Lithographing Co., Cincinnati. Bottles and closures, Owens-Illinois Glass Co., Toledo.

GALLERY

An effective display carton is being used by I. J. Grass Noodle Co. for promotion of a shaker-style container for Mrs. Grass' new all-purpose seasoning. Streamlined jars have a polyethylene snap cap shaker top and a screw-type red plastic closure. The yellow and blue display unit contains a dozen jars. Neck collars dramatize taste appeal. Jars and caps, Owens-Illinois Glass Co., Toledo. Display carton, American Coating Mills, Div. Owens-Illinois. Labels and collars, Milprint, Inc., Milwaukee.

The Seabrook Farms Co.'s unique trade symbol comes to life in this full-length "man-of-the-soil" paperboard display. Two other, smaller sizes are available. The trade symbol appears on every Seabrook package of quick-frozen foods and is widely used in Seabrook advertising. The display is therefore a logical device for getting and focusing attention to the Seabrook slogan, "We grow our own . . . so we know it's good." Display card, Consolidated Lithographing Corp., Brooklyn.

Rexall



SAVINGS were achieved by switching to machine-made boxes, changing white-suede box covering to more practical, coated, embossed paper and using lacquered cartons in place of loose wraps. Result: improved gross profit and increased sales.

CLOSE COST ENGINEERING provided an acetate container for Cara Nome stick make-up at just a third of price originally quoted. This saving made more available for promoting the new item—including an effective counter merchandiser and combination package.

OVERWRAPS AND CARTONS were eliminated wherever possible in Cara Nome line, thereby saving material and increasing acceptance with sales people, who had to remove wrappings and cartons to show product to customer. Acetate laminated labels eliminate soiling, yet permit reproduction of the Cara Nome trademark basket design in full color.

—four years after

A SECOND LOOK AT THE HUGE DRUG-COMPANY REDESIGN PROGRAM

REVEALS CONTINUING SEARCH FOR COST CUTS, QUALITY AND NEW TRENDS

What happens to an ambitious package-redesign program after it has been launched with the usual fanfare and turned over to the production and merchandising departments? Do the ideas which created such enthusiasm at the time still look wonderful after months of actual experience with the package? Should the new packages and labels remain inviolate—or should they be subject to re-examination and modification in the light of experience and changing conditions?

There are no easy answers to these questions. The post-redesign experiences of large packagers are seldom brought to light. But, thanks to the Rexall Drug Co., we do have one current example that is worthy of study.

In November, 1947, MODERN PACKAGING revealed the complete story of Rexall redesign, started in 1943, which comprised probably the largest repackaging program in the history of the drug industry.* It covered the redesigning and revamping of approximately 5,000 Rexall products sold in 10,000 independent drug stores operating under Rexall franchise and serving 25% of all drug-store customers as well as 300 Rexall-owned drug stores in the United States. The program included an item-by-item, fact-finding study ranging from pharmaceuticals to nylon hosiery, chocolates to stationery, sick-room supplies, to cosmetics. It demanded the services of 14 independent package designers.

The program was considered completed in 1947. However, rising costs of materials and services by that time and later had resulted in much higher costs than prevailed when the program was started. It has been reported that Rexall's sales researchers recently found that total costs of its own goods —raw materials, packaging and labor —had increased 45% since 1942, while sales prices had increased only 15%.†

Now, with the probability of a wartime economy ahead, Rexall, like all other companies, will have the problem, too, of coping with material shortages.

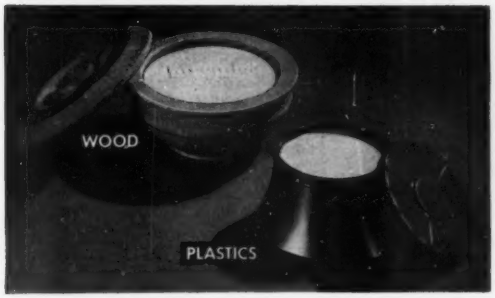
Lower-cost packages, naturally, provide one of the means of challenging mounting costs. The following case-history report of how Rexall is meeting some of these problems, keeping prices and materials in line without affecting product or package quality, will therefore be of particular interest to all packagers.

The first Rexall line to be studied was White Mink—a quality line of perfume items elegantly packaged in hand-made boxes—where package economies could certainly be made

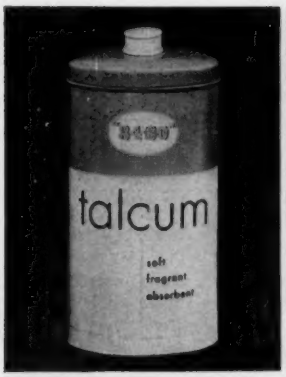
* See "All Rexall," MODERN PACKAGING, Nov., 1947, p. 91.

† See *Modern Plastics*, Jan., 1950, p. 174

PLASTIC SHAVING BOWL sold twice the volume of the formerly used wooden bowl in five previous years combined and at 22% lower cost, unit for unit.



UNDER ONE NAME, these products, which were formerly marketed under several different brand names, are now unified and quickly identifiable as Rexall. The one-color background of the label design simulates bathroom tile.



JUMBO SIZES, featured at very low prices, have all been packaged as the 84-80 line for special-sale promotions. This line should be helpful also during periods of material shortages, when manufacturers are urged to use larger-sized containers.

without sacrificing quality. The cover paper was originally a perishable, expensive white suede. New boxes which could be machine made were designed in Rexall's own box shop. A more practical white, coated, calf-embossed cover paper was selected because it would not soil so easily as the white suede. A silver, black and white, lacquer-coated carton was decided upon as a secondary container for the perfumes and bath powder to protect the set-up box. This carton is also to be used as the primary container for cologne. These changes not only reflected an improved gross profit for the line, but have contributed to increased sales.

Scheduled for early appearance in the White Mink line are two new items—a one-dram perfume purse flacon and a powdered perfume. Both packages feature adaptations of polyethylene closures. The powdered-perfume package employs a friction-type polyethylene closure. The stopper and plug for the purse flacon are also made from polyethylene and operate in much the same way as the cork plug and brass stopper widely used on cologne packages.

The Cara Nome make-up and treatment line of cosmetics is reported to be one of the oldest in the country. Following initial production and distribution of the redesigned packages three years ago, several modifications which would result in needed economies suggested themselves. Cellophane overwrapping and individual folding cartons were found unnecessary for a majority of items. In fact, a study conducted among retail sales people revealed that the overwrapping and the individual carton more often than not had to be removed to show the product to the customer. New lighter-weight, peach opal jars with side labels rather than side and bottom labels were preferred because they gave better product identification at the cosmetic counter as well as in the home. They also meant faster production and lower freight bills.

Paper or foil-labeled cream jars have always been a problem to the cosmetic industry. If the label didn't soil on the warehouse or retail shelf, it usually did after limited use on the user's dressing table. Color-applied or silk-screened labels have answered some manufacturers' problems. In Rexall's case, however, this was not feasible. The multicolor Cara Nome basket trademark had been a part of the line for more than 25 years. It was impossible to reproduce it satisfactorily in these media. The best solution proved to be a post-laminated label. In producing these labels, Rexall first prints the design on high quality paper-label stock, then laminates it to acetate. This type of label was also adopted for set-up boxes. Post-laminated folding cartons, produced in the same way, are used on cologne, perfume and powdered perfume.

These modifications, the company reports, have improved production, lowered costs and—most important—have resulted in a new, high consumer acceptance of the line.

Another change in the Cara Nome packaging is the return of the brand name printed on practically all of the labels. When the new Cara Nome packages were introduced in 1947, the company put only the Cara Nome basket symbol on the labels so that the bottles and jars would be completely decorative on the dresing table with no visible lettering. This was all right when the brand name could be featured on the outer carton for store display and selling. But since outer folding cartons are eliminated, it has been necessary to carry the brand name prominently on all bottle and jar labels.

In the fall of 1949 Rexall introduced the Cara Nome make-up stick. It is interesting to note that the company

ONE-PIECE CARTON replaced former two-piece one at packaging savings that permitted improved formula without a price increase.

UNIT PACKAGES, produced at less than half the cost of former sample packages, permit much wider distribution of samples and have been a strong factor in building up higher sales volume for several products.

established specific cost objectives for the plastic container and then engineered the stick to them. The outcome was a final cost for a cellulose acetate container which was just one third the cost quoted originally. A good portion of the money thus saved was available for promotion of the new item which, in turn, has contributed substantially to its success. A clever counter-merchandising unit was used to pack the initial distribution and a combination package tied the make-up stick in with established items.

Rexall's interest in plastics, as in all packaging media, is aggressively alert. For years the company had a wooden shaving bowl in its Lavender line, which because of high cost, it was never able to merchandise in the volume that the quality of the item justified. Introduced a year ago, a polystyrene plastic shaving bowl has already sold in twice the volume of the wood shaving bowl at 22% lower cost, unit for unit.

The success of the campaign to establish the Rexall logo and brand name as the hallmark of quality drug-store merchandise has led to the introduction this past year of a line of hair preparations, men's shaving needs, tooth pastes, tooth powders and tooth brushes featuring the Rexall logo and brand name. These products were formerly carried under a number of brand names. Now they are all under one brand, Rexall, quickly identifiable by the familiar Rexall logotype and a new one-color-background label design simulating bathroom tile.

During the past year Rexall has introduced the 84-80 line of special-sale products. Generally this is a line of jumbo-sized packages to be featured at very low prices. It is also a line which should help in saving packaging materials during any period of prolonged shortages when manufacturers are urged to sell in larger units.

Rexall Plenamins are an example of packaging that can work hand in hand with improved product development to the substantial benefit of the consumer. New developments in vitamin therapy indicated changes in the Plenamins formula, which, while they would add materially to the value of the product, would also mean a substantial cost increase. Facing other material-cost increases, this further increase would have been almost impossible without an accompanying price increase. However, by changing from a two-piece folding box to a one-piece tuck-end carton, a good part of the increase could be absorbed. A further saving resulted from incorporating the commission tab used in

USE OF CLOSURE for a portion of the required copy has eliminated the necessity for applying an extra back label or an all-around label on the newly adopted blue glass packages for Rex-Eme medicated cream.

STATIONERY PACKAGING requires continued styling to meet changing conditions. Currently, Rexall is using the Hollywood appeal of a Hedda Hopper endorsement to promote its Symphony line of writing papers.

periodical promotions as part of the carton, rather than as a separate slip which had to be spot glued to the former box.

Unit-package samples of Bisma Rex Mates, Rexall's tablet-antacid product, have been a major factor in the success of the item. The samples are offered periodically in deals at point of sale to encourage wider use of the product. Recently, Rexall replaced miniature glass-bottle samples of Bisma Rex, an antacid powder, with a flexible unit package. This new sample package is produced at less than half the cost of the old one, permitting much wider distribution. Flexible unit-packaged physicians' samples of Monhiston-APC have also been used in the introduction of that product. The success of these two sample unit packages in building sales volume has led to two new sample unit-package promotions which are now being released. One features a new formula for Rexall tooth paste, the other a long-established quality product for feminine hygiene, Rexall Hygienic Powder.

One of the favorite items of the Rexall druggists across the nation is Rex-Eme Medicated Cream. Until recently, only two sizes were available —a small size in a lithographed tube and a regular size in an opal jar. Both of these items, as well as a new giant size, are now packaged in gleaming blue-glass jars with lithographed chartreuse, blue and white closures and labels. By putting part of the required copy on the closure, Rexall has eliminated the necessity for an extra back label or an all-around label. The new packages command attention and, at the same time, cost less than the old.

The above examples show pointedly how package designing must be a continuing study to meet changing conditions. Success depends on a continuous flow of new ideas, the same as designing for the fashion industries. This is particularly true in relation to such Rexall lines as papetries. While product styling, quality and pricing of paper is important, packaging ideas have proved time and again the difference between a winner and a loser. Keynoting its campaign for an ever-increasing share of stationery volume, Rexall is using a Hollywood appeal with a Hedda Hopper endorsement of Rexall's "Symphony" brand: "In my daily correspondence with Hollywood stars. I insist upon really smart stationery."

New Rexall products of all classifications are planned with today's package styling, pricing and costs in mind. Scheduled to hit the market early this year are a complete new cosmetic line under the brand name "Helen Cornell"; a line of deodorant products to be prefixed by the name "Dainty" and a single item, "Silque" beauty lotion. Planned for a popular-priced market, the packaging is more or less conventional to keep down costs, but labeling is modern in treat-

(*This article continued on page* 188)

NEW COSMETIC PACKAGES, planned to hit the market early this year, are planned with today's package styling, pricing and costs in mind. Package design treatment is modern, but with an eye to economy.

Set-up Boxes

the quality you want
the quantity you need

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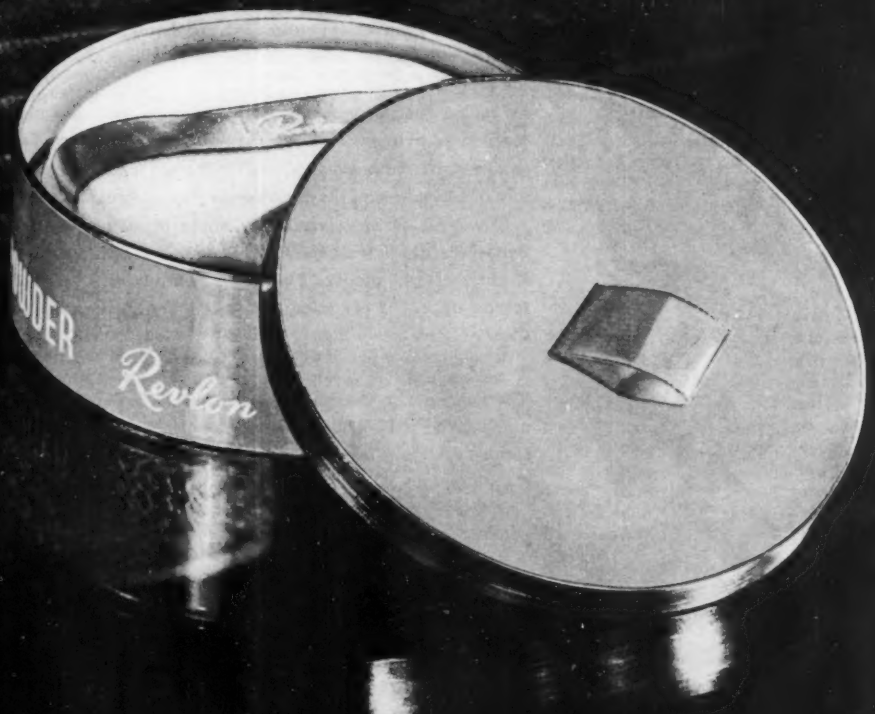

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PACKAGE MACHINERY COMPANY

Measuring humidity equilibria*

A NEW RAPID GRAPHICAL INTERPOLATION METHOD IS DESCRIBED AND COMPARED WITH EARLIER METHODS.

By Arthur H. Landrock† and Bernard E. Proctor**

The measurement of the equilibrium relative humidity of a substance—that is, the relative humidity at which the substance will neither gain nor lose moisture under given temperature conditions—is an important determination in laboratories concerned with studies on the storage characteristics of food products. As the laboratory techniques currently in use for the determination of humidity equilibria of food products present various difficulties, an attempt was made to devise a better method.

It is the object of this paper to outline the basic methods in common use at present and to report the details of an improved, rapid, test method developed in the Packaging Research Laboratory of the Department of Food Technology at the Massachusetts Institute of Technology. For convenience, this method will be called a "graphical interpolation method."

Basic methods now in use

Search of the literature shows that there are three basic methods in common use. One method (here cited as "Method A") consists of direct measurements of water-vapor pressure by manometric techniques. A second method ("Method B") consists of direct measurements of equilibrium relative humidity by the use of an electric hygrometer. A third method ("Method C") requires that samples of the product under test be brought to actual weight equilibrium when exposed to a series of different relative humidities.

Method A, the *manometric method,* makes it possible to obtain results with relative rapidity, but requires somewhat complicated and expensive apparatus and well-trained technicians.

Method B, the *electric hygrometer method,* is a simple but expensive method. The equipment units used must be calibrated and rechecked occasionally against known relative humidities by the use of salt or sulfuric acid solutions.

Method C, the *weight equilibrium method,* which is that in most general use for food products, gives satisfactory results with simple equipment, but requires numerous weighings and is, therefore, time-consuming. It has a decided advantage in that only a single moisture determination must be made to obtain a moisture-equilibrium curve. The remaining values are obtained by direct calculation from the weight of water added at equilibrium. For those interested in investigating further the existing techniques, the following brief outline of these three methods is given.

Method A

1. *Method of Adams and Merz* (1).[1] Adams and Merz have used the isoteniscope described by Smith and Menzies (16) to measure the vapor pressure of saturated salt solutions. This method gives highly accurate results and is applicable particularly to solutions and pure liquids.

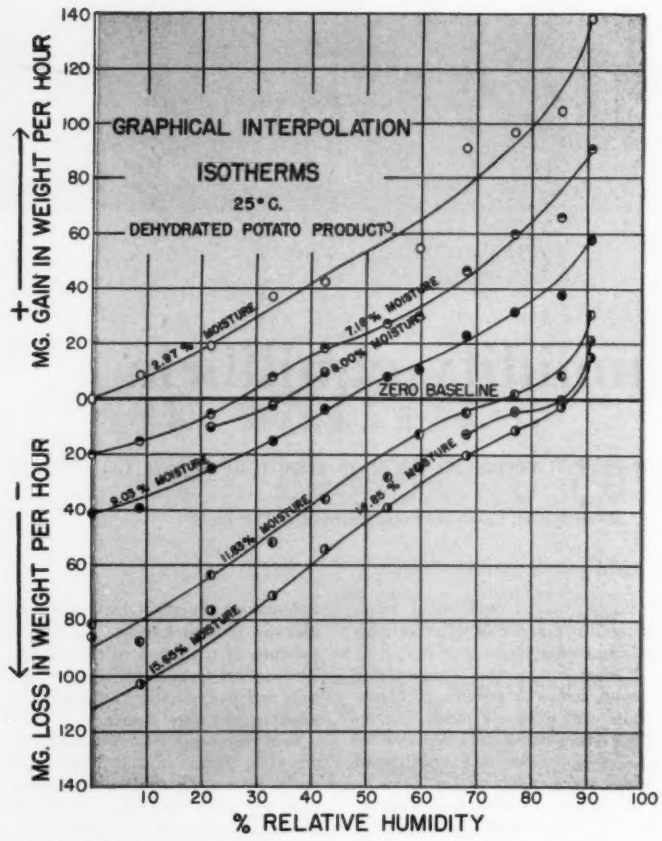
2. *Apparatus of Makower and Myers* (15). Makower and Myers describe a relatively simple vapor-pressure apparatus consisting essentially of an oil manometer, a sample bottle and a trap. They state that they can complete a measurement in less than two hours with the use of this apparatus.

3. *Apparatus of Vincent and Bristol* (18). This apparatus appears to be the simplest of the manometric systems. In the words of the authors, "operation is based on the measurement of pressure exerted before and after freezing out moisture vapor, thus avoiding error due to adsorbed gases." Vincent and Bristol present data on orange juice powder, pipe tobacco and soil inoculator. With this apparatus "a complete humidity *vs.* moisture-content curve may be obtained on one sample by making these measurements at intervals during vacuum dehydration of the sample."

4. *Apparatus of Legault, Makower*

[1] Numbers in parentheses identify "References" appended.

* Based on a paper read by Mr. Landrock at the 12th Annual Forum of the Packaging Institute, New York, Oct. 25, 1950.
† Research Assistant in Packaging, ** Professor of Food Technology and Director of the Samuel Cate Prescott Laboratories of Food Technology, Department of Food Technology, Massachusetts Institute of Technology, Cambridge, Mass.



1. GRAPHICAL interpolation isotherms which were obtained for a dehydrated potato product that was studied at 25 deg. C. temperature.

and Talburt (13). This apparatus is considerably more complicated than that of Vincent and Bristol, although highly accurate. The Dubrovin manometer used in the unit has a sensitivity about seven times that of an ordinary U-tube mercury manometer. Its use requires a careful technician who is familiar with its manipulation. Food packaging problems rarely require the degree of precision offered by this apparatus.

Method B

1. *Method of Graebner* (8). Graebner describes a method that is really a combination of Methods B and C. In a useful paper, he discusses many of the problems that the food packaging technologist will encounter in humidity equilibrium studies.

Graebner exposed dishes of samples in a specially built oven, kept at 100 deg. F. and containing the necessary sulfuric acid solution to provide the desired relative humidity. Once equilibrium was reached, as determined by the stability in weight of the samples, the relative humidity of the atmosphere in the cabinet was measured by an electric hygrometer. The method requires a long period of time, for only one point on the humidity equilibrium curve is obtained at a time with a single cabinet. Room temperatures of 25 deg. C. or 70 deg. F. are ordinarily used in tests of this type, although higher temperatures would yield results more rapidly.

2. *Method of Yee* (20). The electric hygrometer has been used by Yee to measure the equilibrium relative humidities of fertilizers (as solids, not solutions) with different moisture contents.

3. *Method of Brockington, et al.* (2). These investigators have measured the equilibrium relative humidity of whole kernel corn with the use of a simply designed, quart test unit of glass, with a specially fitted cover. The hygrometer unit was placed in direct contact with the corn, with practically no air space in the container. The test temperature was 80 deg. ±0.2 deg. F. Humidity readings were taken at 15-minute intervals until equilibrium was reached, which usually required about two hours. Samples of varying moisture content were obtained by soaking whole kernel corn in tap water. Probably a shorter equilibration period would be required for less dense products.

Method C

1. *Method of Dittmar* (4). A sample (1 gm.) of bone-dry sugar crystals was spread over a tared watch glass and placed successively in humidity chambers whose relative humidities were controlled by sulfuric acid solutions of different concentrations. As the sample reached equilibrium in one chamber, it was placed in a chamber with the next highest relative humidity and so on, until it reached equilibrium with the highest relative humidity studied. Some interesting observations were made on sugars.

2. *Method of Makower and Dehority* (14). Makower and Dehority worked on dehydrated vegetables, which they impaled as slices on a special glass support. The samples were exposed over sulfuric acid solutions of known concentrations in vacuum desiccators, which were evacuated to 5 mm. of mercury. The acid solutions provided five different relative humidities ranging from 10 to 75%. A total of from four to five days was required for the samples to reach equilibrium. The test temperatures were 37 deg. and 70 deg. C. After the weights at equilibrium were determined, the dry weights of the samples were obtained by vacuum oven methods and the concentration of sulfuric acid in each desiccator was obtained.

3. *Method of Yee and Davis* (21). A humidity chamber was specially designed by Yee and Davis in such a way that the atmosphere in the chamber was constantly circulated. Special, tared moisture dishes were

described. Humidity control was accomplished by super-saturated salt solutions. Results have been reported on fertilizers and fertilizer components (salts). Samples were kept under test until weight equilibrium was reached.

4. *Method of Cleland and Fetzer* (3). The method described by Cleland and Fetzer for use with starch hydrolyzates is basically the same as the other equilibrium methods. Samples were placed in test dishes in a desiccator humidity chamber and were weighed at regular intervals until constant weights were reached. The main difference between this method and the other equilibrium methods is that the humidity control was provided by a stream of air of the desired relative humidity. The specified relative humidity was obtained by passing air through a preconditioning unit containing a saturated salt solution and then through a series of three vessels of sulfuric acid adjusted in density to provide air of a relative humidity close to that of the air over the salt solution. The obvious advantage of this method is that the concentration of the acid solution is almost unchanged under these conditions. It is apparent that this method, although accurate, is time- and space-consuming.

5. *Method of Wink* (19). This method seems to be the one in most general use in food packaging studies. Although Wink appears to have been particularly interested in testing papers and allied materials, he indicated the applicability of his method for foods. The unique feature in Wink's method is the peculiar suspension assembly for supporting the test dish. This type of assembly, described earlier by Gane (6), permits the sample to be weighed at intervals without significantly changing the test conditions. A special platform is provided to replace the left pan of the balance accommodating the large crystallizing dishes that serve as humidity chambers. The authors have tried this method with good results. The main disadvantage appears to be the time consumed.

6. *Method of Hellman and Melvin* (9). This method is an equilibrium method accelerated by a vacuum pump. Samples (2 gm. each) of cornstarch of normal moisture content (10-13%) were placed in test dishes in vacuum desiccators over saturated salt solutions. A vacuum pump was used to evacuate all air and reduce the vapor pressure to that provided by the salt solution. Storage was at 25 deg. ± 1 deg. C. After equilibrium was reached (in two to four weeks, as predetermined by trial), the vapor pressures of the atmospheres in the desiccators were measured with a closed-end mercury manometer. This provided an extra check. Moisture determinations were made on the samples.

7. *Method of Karon and Adams* (11). Large samples of rice and rice fractions were suspended by partitioned wire mats over salt solutions in large desiccators at 25 deg. C. Every few days small samples (5-10 gm.)

TABLE I—SPECIFIC GRAVITIES OF SULFURIC ACID SOLUTIONS PROVIDING SPECIFIED RELATIVE HUMIDITIES AT 25° C.[a]

Relative humidity (%)	*Specific gravity*	*Normality*	*Relative humidity (%)*	*Specific gravity*	*Normality*
0	1.835	—	51	1.331	11.4
1	1.698	25.7	52	1.327	11.2
2	1.662	24.5	53	1.322	10.0
3	1.642	23.5	54	1.318	10.9
4	1.624	22.7	55	1.314	10.8
5	1.608	22.0	56	1.310	10.6
6	1.597	21.4	57	1.307	10.4
7	1.585	20.9	58	1.303	10.3
8	1.573	20.4	59	1.298	10.1
9	1.563	19.9	60	1.293	10.0
10	1.552	19.5	61	1.289	9.8
11	1.544	19.2	62	1.284	9.7
12	1.536	18.8	63	1.280	9.5
13	1.528	18.5	64	1.276	9.3
14	1.519	18.2	65	1.271	9.2
15	1.512	18.0	66	1.267	9.0
16	1.505	17.7	67	1.263	8.8
17	1.499	17.5	68	1.258	8.7
18	1.491	17.3	69	1.253	8.5
19	1.485	17.0	70	1.248	8.3
20	1.478	16.8	71	1.244	8.1
21	1.473	16.6	72	1.239	7.9
22	1.467	16.4	73	1.234	7.7
23	1.461	16.2	74	1.229	7.6
24	1.456	16.0	75	1.224	7.4
25	1.450	15.8	76	1.220	7.2
26	1.446	15.6	77	1.215	7.0
27	1.440	15.4	78	1.209	6.8
28	1.434	15.2	79	1.203	6.6
29	1.429	15.0	80	1.197	6.3
30	1.425	14.8	81	1.192	6.1
31	1.419	14.6	82	1.185	5.9
32	1.414	14.5	83	1.179	5.7
33	1.409	14.3	84	1.172	5.4
34	1.404	14.1	85	1.165	5.2
35	1.400	13.9	86	1.158	5.0
36	1.396	13.8	87	1.150	4.7
37	1.391	13.6	88	1.142	4.4
38	1.387	13.4	89	1.135	4.2
39	1.382	13.2	90	1.127	3.9
40	1.377	13.1	91	1.118	3.6
41	1.373	12.9	92	1.108	3.3
42	1.369	12.8	93	1.098	3.0
43	1.364	12.6	94	1.087	2.5
44	1.359	12.4	95	1.076	2.3
45	1.355	12.3	96	1.064	2.1
46	1.352	12.1	97	1.052	1.5
47	1.348	12.0	98	1.037	1.1
48	1.343	11.8	99	1.020	0.5
49	1.339	11.7	100	1.000	0.0
50	1.335	11.5			

[a] Recalculated from data in Lange (Lange's Handbook of Chemistry, 6th ed., 1946, pp. 1,319-1,320, Handbook Pub. Co., Sandusky, Ohio) and by Stokes, R. H., and Robinson, R. A. (Ind. Eng. Chem., 1949, vol. 41, p. 2,013).

were removed and moisture determinations were made upon them. When constant moisture contents were obtained, it was assumed that equilibrium had been reached.

Graphical interpolation method

The new graphical interpolation method, as developed by the authors, requires following the procedures listed herewith:

1. Weighing out, in uniform amounts, a number (5-10) of samples of a product of given moisture content.
2. Exposure of the samples to controlled atmospheres of different relative humidities for a constant period of time at a constant temperature.
3. Determination of the gain or loss in weight of each of the samples at the end of the exposure period.
4. Plotting these values with reference to the relative humidities, the gains in weight being shown above and the losses in weight below a horizontally drawn "zero baseline" representing no change in weight.
5. Drawing of a smooth curve through the plotted points.
6. Interpolation of the equilibrium relative humidity (E.R.H.) at that point where the smooth curve intersects the zero baseline.
7. Repetition of Steps 1 to 6 for the same product at several other initial moisture contents.
8. Drawing of the usual moisture equilibrium curve from the E.R.H.'s obtained by the steps described above.

This graphical method is based upon the principle that the rate of gain or loss in the moisture of a product at any given initial moisture content and under any given atmospheric relative humidity increases with increasing difference between atmospheric and product vapor pressures. Inasmuch as the equilibrium relative humidity of the product is equal to the water-vapor pressure of the product divided by the saturation water-vapor pressure at the same temperature, it is obvious that the rate of gain or loss in the moisture of a product of any given initial moisture content and under any given atmospheric relative humidity increases with increasing difference between atmospheric and product relative humidities.

Obviously, when it is desired to know the E.R.H. of a product at a certain temperature, it is essential to remember that the E.R.H. of a product is defined as *the atmospheric relative humidity at which the product will neither gain nor lose moisture.* The relative humidity of the atmosphere during test exposure of the product is the only variable with which the technologist studying the problem need be concerned, as the other factors (*duration of test period, storage temperature, initial weight* and *moisture content of sample,* and *surface area of sample* in any one series of measurements) are held constant.

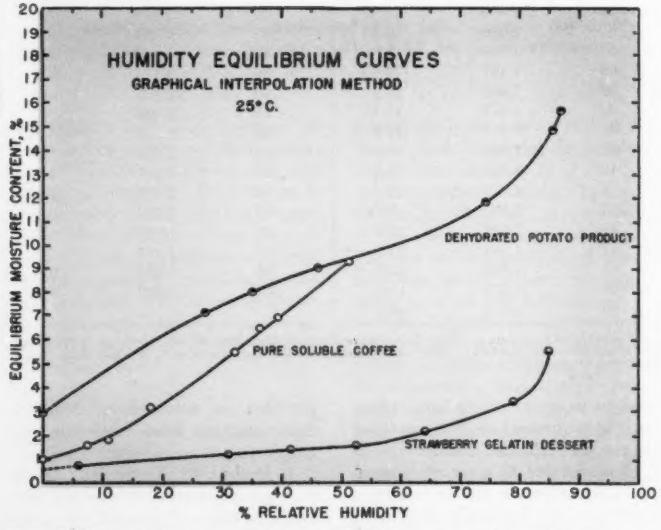
So far as is known, this is the first time that the duration of the test period has been held constant in a true equilibrium (gain or loss of weight) method.

If the data for gains or losses in weight per unit of time of samples of a given size are plotted on graph paper with reference to the atmospheric relative humidities to which the samples have been exposed, in such a way that the losses and gains in weight can be plotted on either side of a zero baseline representing no change in weight (Fig. 1), the equilibrium point is obviously the point at which the resulting smooth curve (graphical interpolation curve) crosses the zero baseline.

The point of intersection, or the humidity equilibrium point, for a sample of any given moisture content represents a single point on the sorption isotherm[2] or humidity equilibrium curve (Fig. 2). It is only necessary to obtain, under identical test conditions, similar graphical interpolation curves for other samples of different initial moisture contents over the range of relative humidities in which there is any interest. Each graphical interpolation curve (Fig. 1) constitutes an isotherm. This isotherm is not the same as the isotherm usually called the moisture or humidity equilibrium curve (Fig. 2), which is based on the points of intersection of the graphical interpolation curves at the zero baseline. Sorption and desorption are both shown on the graphical interpolation isotherm. Although the test time for all points on an isotherm must be constant, *different test times* can be used for different isotherms just so long as they are over, say, 30 minutes.

In determining equilibrium relative humidity by this method, the E.R.H. is found to be independent of the test time when samples which contain an identical moisture content are used for the test.

Reference to Fig. 1 shows that moist products tend to shift isotherms



2. TYPICAL moisture or humidity equilibrium curves obtained with three different types of food products, the E.R.H.'s of which were determined here at 25 deg. C. by the graphical interpolation method.

[2] Isotherm, in general, refers to any curve based on data obtained at a constant temperature.

TABLE II—GRAPHICAL INTERPOLATION DATA

Initial moisture content (%)	*Change (mg.) in weight per hour at relative humidity (%) of* 90.8	85.6	76.9	68.3	59.7	53.9	42.6	33.0	21.8	8.7	0.0	*E.R.H.*
					Strawberry gelatin dessert[a]							
0.76	+ 44.1	+ 31.2	+ 29.2	——	+26.3	+24.1	+18.9	+12.7	+ 5.8	+ 1.1	— 3.0	6.0
1.23	+ 37.2	+ 21.1	+ 15.2	——	+ 8.6	+ 5.5	+ 3.0	+ 0.4	— 3.4	— 8.6	—11.7	31.0
1.46	+ 48.5	+ 26.9	+ 19.3	——	+ 8.6	+ 3.4	+ 0.8	— 4.1	— 7.8	—12.8	—17.8	41.5
1.59	+ 55.7	+ 31.3	+ 21.3	——	+ 6.6	— 0.9	— 6.0	—14.1	—18.3	—18.1	—22.5	52.5
2.20	+ 33.8	+ 15.4	+ 7.8	——	— 3.6	—14.4	—21.8	—33.9	—42.8	—53.1	—54.4	64.0
3.41	+ 36.2	+ 9.0	— 1.0	——	——	—26.2	——	—51.8	—66.1	—77.7	—69.1	78.9
5.49	+ 23.0	+ 0.5	— 8.3	——	—20.5	—38.0	—44.5	—62.7	—72.9	—86.5	—85.6	84.9
					Dehydrated potato[a]							
2.97	+138.3	+105.1	+ 97.6	+ 90.8	+54.6	+62.5	+42.7	+37.2	+19.2	+ 8.3	± 0.0	0.0
7.16	+ 90.1	+ 65.9	+ 60.0	+ 46.7	+29.8	+27.3	+18.3	+ 7.9	— 5.6	—15.2	—19.9	27.0
8.00	——	——	——	——	——	——	+ 9.6	— 2.1	—15.1	——	——	35.0
9.03	+ 57.8	+ 37.7	+ 31.5	+ 22.4	+10.4	+ 7.9	— 3.8	—14.8	—24.9	—39.1	—40.9	46.0
11.83	+ 30.6	+ 8.2	+ 1.9	— 4.9	—12.5	—27.8	—35.6	—51.8	—63.1	—87.3	—81.1	74.2
14.81	+ 20.9	± 0.0	— 4.4	— 12.6	——	——	——	——	——	——	——	85.6
15.65	+ 15.4	— 2.3	— 11.6	— 20.0	—24.4	—38.8	—54.1	—70.8	—75.9	—102.5	—85.8	86.9
					Pure soluble coffee[b]							
1.00	——	——	——	——	——	——	——	+22.2	+10.8	+10.2	+ 1.7	0.0
1.61	+ 62.8	+ 61.5	+ 48.6	+ 38.9	——	+27.1	+16.6	+10.7	+ 5.0	+ 0.4	— 4.1	7.5
1.85	——	——	——	——	——	——	——	——	+ 3.6	— 0.4	— 4.5	10.9
3.14	——	——	——	——	——	——	+18.2	+10.6	+ 1.9	— 2.4	——	18.0
5.48	+ 67.0	+ 59.3	+ 49.6	+ 38.2	——	+23.0	+10.1	— 1.2	— 8.6	—15.7	—21.3	32.0
6.47	——	——	——	——	——	+18.4	+ 6.5	— 3.0	—15.9	—22.6	——	36.3
6.94	——	——	——	——	——	+16.0	+ 3.6	——	—17.8	—26.5	——	39.3
9.31	——	——	+ 19.7	+ 15.0	——	+ 3.2	——	——	——	——	——	51.2
					Confectioner's corn sirup (approx. 42 D.E.)[a]							
17.42	— 14.1	— 4.7	— 5.0	— 4.6	—21.4	—16.1	—29.9	—32.1	—36.3	—35.5	—34.5	82.2
					Maple fudge[c]							
6.31	+ 11.1	+ 4.5	+ 1.6	+ 0.2	——	— 3.1	——	——	——	——	——	68.4
					Powdered molasses[a]							
3.38	——	——	——	——	——	——	+21.0	+11.2	+ 1.1	— 5.9	—12.5	20.2
					Soda crackers[a]							
4.94	+ 91.2	+ 73.0	+ 50.0	+ 52.0	+26.1	+23.6	+18.1	+11.1	— 0.4	— 8.6	—11.4	22.2
					Candy wafers[a]							
——	+ 14.2	+ 5.0	+ 1.5	+ 0.6	——	+ 0.5	— 0.2	— 0.1	— 0.2	— 0.4	— 0.6	45.0
					Distilled water[d]							
100.00	— 2.8	— 4.3	— 5.9	— 5.8	— 6.1	— 6.5	— 8.7	— 9.4	—13.5	—14.8	—17.5	100.0
					Dehydrite[e]							
——	+145.9	+165.6	+160.2	+120.8	——	+77.5	+74.7	+53.3	+37.3	+16.5	+ 3.8	0.0

[a] Temp. = 25° C. [b] Temp. = 23° C. [c] Temp. = 26° C. [d] Temp. = 27.5° C. [e] Temp. = 24.5° C.

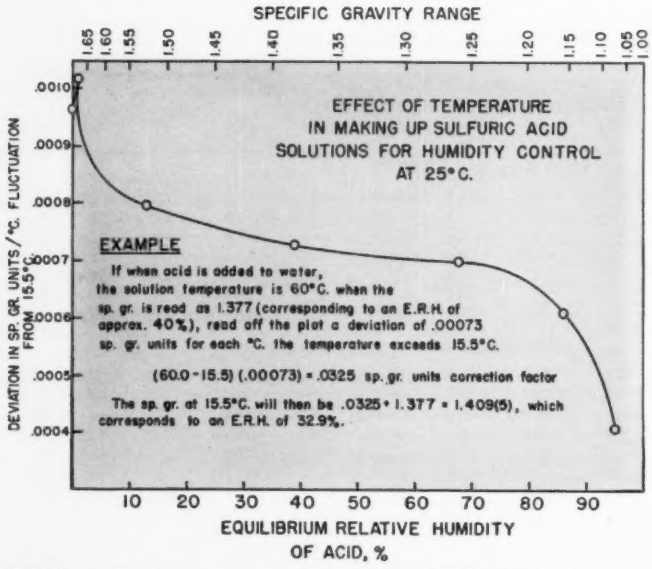
below the zero baseline, whereas dry products will shift isotherms in the other direction.

Procedure

Preparation of sample. Obtain about eight or nine samples of the product to be studied, each with a different moisture content covering the entire range of moisture in which there is any interest. These samples, of about 60 gm. each, are prepared simply and rapidly as follows:

Use one sample as it comes out of the package or directly from production. Take a second sample of this material and reduce its moisture content by placing it in a vacuum oven at 40-50 deg. C. and 30 in. of mercury for about an hour. Remove about 60 gm. and place the remainder back in the vacuum oven for further drying for about another hour. This procedure will provide two samples, each having a lower moisture content than that of the package sample. Store these samples in moistureproof containers at 25 deg. C. until they are to be used in a test.

Place five or six other portions, each of about 60 gm., in an atmosphere of high humidity and temperature (about 90% relative humidity and



3. EFFECT of temperature on specific gravity of sulfuric-acid solutions. The results are based on data recalculated from Lange (12).

100 deg. F. are suggested) for varying times, to provide a wide range of moisture content. Stir the samples occasionally to guarantee a uniform moisture content. If a humidity cabinet is not available, a deep dish of the product can be placed in a large (12-in. diameter) crystallizing dish with several inches of water. If a glass plate is placed on the ground edge of the crystallizing dish with stopcock grease, there will be little or no leakage of water vapor from the dish and the relative humidity will be around 95%.

Moisture determinations are made on aliquots of all samples after they have been in the vacuum oven at 70 deg. C. for 6 hrs. at 30 in. of mercury. Samples weighing 2 gm. each are used. If the moisture contents of the prepared samples do not cover the entire range at suitable intervals, it is a simple matter to prepare one or two more samples as needed.

All samples should be stored in glass jars with rubber-gasket-lined screw caps to prevent changes in moisture content before the samples are used for tests.

Before a test is run, it is preferable that any sample in which saturation has taken place to a great extent should be permitted to stand longer than a drier sample. This precaution is necessary to allow time for the moisture content of the more saturated sample to become uniform throughout the sample.

Preparation of sulfuric-acid solutions for use in humidity control chambers. Prepare about a pint each of a sufficient number of sulfuric-acid solutions to cover the range of 5 to 90% relative humidity. Ordinarily, acid solutions are satisfactory that are in equilibrium at 25 deg. C. with relative humidities of about 10, 20, 30, 40, 50, 60, 70, 80 and 90%. Refer to Table I to find the specific gravity of the acid to provide the relative humidity desired in the humidity control chamber.

Add any reasonable amount of acid carefully to water in an Erlenmeyer flask kept in a pan of cold water. Shake and allow to cool somewhat. Pour enough into a hydrometer cylinder (14 in. high) to permit a reading to be made with a precision grade hydrometer, which gives specific gravity to three decimal places. Note the reading and also record the temperature in degrees Centigrade. Refer to Fig. 3 to determine the correct value to add to convert the reading to specific gravity at 25 deg. C. This will be a close approximation of the true specific gravity at the lower temperature.

When the solution comes to a specific gravity providing a relative humidity within about two units of the desired relative humidity, let it cool (by adjusting with hot and cold tap water running on the flask) to 15.5 deg. C., which is the calibration temperature of the hydrometer. Read the specific gravity carefully and record it. Bottle the acid solution in a glass-stoppered reagent bottle, label the bottle and then store it at 25 deg. C. until needed.

With a knowledge of the approximate proportions of water and acid used to give the specific gravity already obtained, prepare the rest of the required acid solution in the same way.

If at any time the concentration is not close enough to any desired specific gravity, adjust by adding acid or water.

In Table I, the normality figures recorded were obtained experimentally by titration with approximately 0.1 N NaOH, methyl red being used as the indicator. Titration was carried out until a definite, bright yellow color was obtained. These normality figures are useful in checking the E.R.H. of any given sulfuric-acid solution without the use of a precision hydrometer, which usually requires about 400 ml. of solution. To obtain more accurate results, an attempt should always be made to dilute the acid solution to approximately the same normality before titrating. To do this, some idea of the approximate strength of the acid is needed.

In drawing up the standard curve used to provide the normality figures, the following equation was used:

$$N_{acid} \times \text{dilution factor} = 50 \times \text{ml. base} \times N_{base}$$

The factor 50 is obtained by dividing the 100-ml. volume of the diluted sample by 2, which represents the number of milliliters in the aliquot used for titration (see below).

The dilution factor is the milliliters of original acid sample diluted to 100 ml.

An example is given below, to show how these values are used.

Assume that a sulfuric-acid solution is expected to have an E.R.H. of about 78%. Reference to Table I shows that the normality of the acid should be 6.8. Assume that the normality of the base is 0.1063 and that a titer of approximately 25 ml. is desired.

The dilution factor is then calculated as follows:

$$\text{Dilution factor} = \frac{50 \times 25 \times 0.1063}{6.8} = 19.5$$

The value of 19.5 is then rounded off to the nearest whole number, 20, and 20 ml. of original acid solution is pipetted into the 100-ml. volumetric flask and diluted to the mark with distilled water. A 2-ml. aliquot is then withdrawn for titration. About 15 ml. of distilled water is added to the aliquot. If the titer is 21.35 ml. base, the N_{acid} is calculated as follows:

$$N_{acid} = \frac{50 \times 21.35 \times 0.1063}{20} = 5.68$$

The value of 5.68 for the N_{acid} corresponds to a relative humidity of 83%.

The test proper

From the samples prepared and stored as described above, approximately 5-gm. portions are weighed on an analytical balance[3] and placed in crystallizing dishes in humidity control units (Figs. 4 and 5) containing sulfuric-acid solutions that have been prepared as just described to give specified relative humidities in the atmospheres of the units.

The glass jar containing the sample to be tested is placed near the balance in a constant temperature room. If the temperature of the room is not controlled, wait until the desired temperature (usually 25 deg. C.) is reached.

Place one of the water-vapor-permeability (WVP) pans (Figs. 4 and 5) or any similar open dish on the left pan of the balance, and balance with the proper weights. It is not necessary to record the tare weight. Place a 5-gm. weight on the right pan along with the other weights. With a teaspoon, place about 5 gm. of sample in the WVP pan. Adjust the weight as rapidly as possible to within 5 ± 0.01 gm. If it is not convenient to adjust the weight this closely because of large particle size, adjust as closely as practical without sacrificing speed.

In samples that are considerably above or below the relative humidity of the balance atmosphere, there will be a constant, slight loss or gain in weight, resulting in a shifting of the needle away from the index mark. By carefully observing the rate of change, it is possible to remove the pan with contents and quickly place it in the first of the humidity test units (Fig. 4)—0.0% relative humidity—so that the test unit is covered again at just the instant the needle would pass over the index mark. At the very worst, the deviation would be no more than 0.2 mg., because the transfer from balance pan to test unit is made within about 4 sec. without any great difficulty.

Record to the nearest half-minute the time the pan is placed in the dish. *After the time is recorded*, the weight reading is made and also recorded.

All other pans of the same sample are handled in the same manner. With some practice, the interval between successive weighings can be limited to about 3½ min. For 11 test units this would mean that for a 1-hr. test period there would be a 20-min. wait before the first pan would be reweighed.

As each pan is rapidly reweighed, the weight is recorded and the point plotted on specially prepared graph paper, as in Fig. 1. When enough points are plotted to permit drawing a smooth curve crossing the zero baseline representing no change in weight, there is no necessity to weigh any more pans. For the purpose of study, however, complete curves covering almost the entire range of relative humidities were drawn up for most of the products described in this paper.

For ordinary routine tests, a little judgment will permit the saving of considerable time and effort. For example, if a sample has a moisture content much higher than the usual production sample, there is little point in running tests at 0, 10, 20, 30, etc., % relative humidity. The usual moisture-equilibrium curves such as those shown in Fig. 2 are drawn as soon as the points are obtained by graphical interpolation.

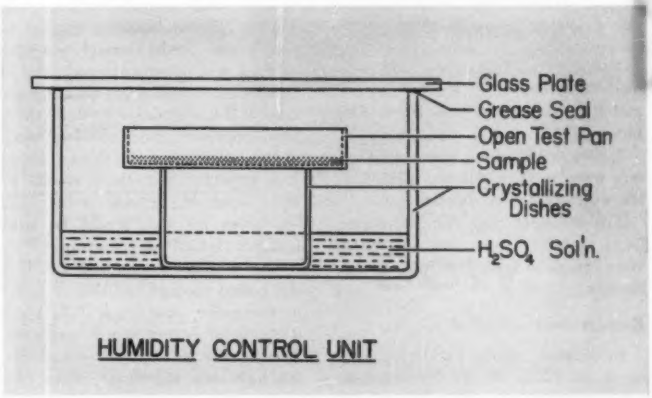
When free-flowing powders are tested, they should be tamped down by shaking the pan until the exposed surface is reasonably constant.

It is recommended that in most cases a 1-hr. test period is most convenient, but exactly the same values for E.R.H. will be obtained if longer test periods are used.

Experimental

To determine the validity of the new technique, a complete study was made at 25 deg. C. on samples of a strawberry gelatin-dessert powder, a dehydrated potato product and a pure soluble coffee. These three products represent major types that are apt to be encountered in E.R.H. studies. In the case of the pure soluble coffee, each sample used weighed initially only 2 gm., because of the low density of the coffee. In the other two instances, the samples weighed 5 gm. each.

Because the accuracy of the method depends largely on the close



4. DIAGRAM of crystallizing dish assembly used as humidity-control chamber. A simple test is shown here, although water-vapor permeability pans (as shown in Fig. 5) were used in the experiments.

[3] A Chainomatic balance is almost essential because of the importance of rapidity of measurement.

5. PHOTOGRAPH showing suggested arrangement of equipment for the graphical interpolation method of determining equilibrium relative humidity. Hydrometers in background are used in making acid solutions.

alignment of points constituting the isotherms, it was decided to obtain single isotherms for a wide variety of products to obtain some idea of the suitability of the method for these products.

In the case of the distilled water, 20-ml. samples were used. This amount was pipetted into each test dish. The initial temperature of the water was the same as the temperature of the room, including that of the test chambers.

The corn sirup was so viscous that it was difficult to weigh or handle a small amount on a volume basis. Therefore, reasonably uniform quantities as judged by eye were poured onto each pan.

In the case of the fudge, the nuts were removed and small, approximately uniform patties were made by hand.

Individual crackers and candy wafers were used. Each was placed in the exact center of the test pan.

For molasses and the Dehydrite, 5-gm. samples were used, as these were granular products of average density.

Results and discussion

In general, all the results summarized in Table II are in excellent agreement with results obtained by other methods on similar products (5, 7).

The equilibrium-humidity curve obtained by this method for the strawberry gelatin-dessert powder indicates higher E.R.H.'s beyond the critical relative humidity than the curve obtained by the Wink method (7, 19). This divergence can be ascribed to the effect of case-hardening. In the method of Wink, when a hygroscopic product that cakes easily, such as a gelatin-dessert powder, is exposed to high humidity for a long period, the hardened outer portion of the mass acts as a protective layer around the inner material. In the graphical interpolation method, the gelatin-dessert powder was stirred frequently while exposed to any conditioning relative humidity and at intervals was passed through a strainer while it was being saturated. The results plotted for the curve by the graphical interpolation method, therefore, represent data obtained on a rather finely divided product. Hence it is expected that these results are more accurate, because under these conditions sorption would be more uniform throughout the sample.

The moisture content of 2.97% in the potato product and that of 1.00% in the coffee product at E.R.H.'s of 0.0% probably represent bound water. This is difficult to remove and does not have any significant vapor pressure.

Experimental work indicated that for some typical solid products under typical test conditions, a rise in temperature of 1 deg. C. may cause a rise of approximately 0.5% E.R.H. This holds true, however, only in the range of usual room temperatures. On the other hand, it has been shown that with saturated salt solutions, the E.R.H. generally decreases with increase in temperature (1). This is because more salt goes into solution at higher temperatures, resulting in a decrease in vapor pressure.

Summary and conclusions

A technique has been devised for measuring the equilibrium relative humidities of a wide variety of food products. The technique is based on the observation that under constant conditions of weight, surface area and moisture content of product, temperature of environment and duration of test period, the gains or losses in weight of a product are proportional to the relative humidity of the test atmosphere. These gains and losses can be plotted graphically with reference to the relative humidity and a curve drawn through the plotted points. The equilibrium relative humidity can then be read from the point where the curve intersects a zero baseline representing no gain or loss in weight.

This technique will give accurate and reliable results in periods from a little over one hour to two days in length, depending on the number of points desired for the moisture-equilibrium curve.

A constant-temperature room is helpful, but not necessary, because of the short duration of the test.

It would appear that the method also has application for such materials as paper, plastics and the like. However, because of the density of these latter materials and of some dense confectionery products, slightly longer test times are sometimes preferable.

This paper is to be regarded as an explanation of a new method rather than as a source of information on any of the products mentioned. The results obtained with numerous foods by this method will be published shortly.

Acknowledgments

The authors are greatly indebted to Prof. George P. Wadsworth (Mathematics Department, Massachusetts Institute of Technology) for his kindly criticism of the mathematical significance of the data and to Prof.
(*This article continued on page 186*)

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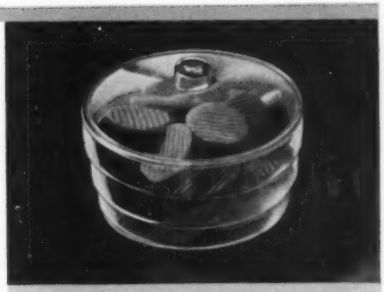

Utility Dish: Transparent rigid container has tight-fitting lid to keep candy mints fresh and tasty. Molded and distributed by Artcraft Plastic Moulders, Ltd., 8928 Ellis Avenue, Los Angeles 34, Calif.

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Jubilee (Lazy Sue): Make your candy the customer's choice . . . package in an eye-appealing, re-usable rigid container. Molded and distributed by New Plastic Corporation, 1017 North Sycamore, Los Angeles 38, Calif.

Cut out— Send in today!

The Dow Chemical Company
Plastics Division, Dept. MSRC-4
Midland, Michigan

Please send me detailed information about rigid containers made of Styron.

Name _____ Title _____

Company _____

Street _____

City _____ State _____

Products to be packaged _____

_____

DOW plastics

Questions & Answers

This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Protecting electric hand lanterns

QUESTION: We are manufacturers of a line of electric hand lanterns. These lanterns are shipped with battery in place and must be shipped by express, as there is a possibility of acid leakage from the particular type of battery we use. There would be considerable saving to the customer if we could ship them by parcel post and we would like your suggestions as to a plastic bag or some other type of package that will protect our product against the possibility of acid damage.

ANSWER: It should be possible to develop a tightly sealed bag made from a plastic film which would prevent acid leakage from the battery. Such packages would fall under two general classes: (1) a fitted cover made from a fairly heavy gauge of plastic film which could be used during shipment and would also be useful to the consumer as a waterproof cover in the use of the lantern; (2) a thin envelope or bag construction which would be useful only in the packaging and shipping of the lantern.

For the first type, a 5- or 10-mil vinyl film would appear to be the most suitable. There are many companies which specialize in fabricating this film to fit closely around any object.

The fitted unit could be sealed across an open end with directions for the customer to cut the seal carefully so as not to impair the usefulness of the item as a waterproof cover. A fabricated item of this kind would be comparatively expensive although the customer might be willing to accept this increased cost because of its re-use feature.

However, a package made from a thin-gauge (less than 2 mils) plastic film fabricated into a simple bag is probably the best answer to your problem. It is suggested that you try a package made from polyethylene (if you can obtain it) of about 2-mil thickness. This simple package should be put around the entire lantern, which has been previously wrapped to cover up sharp points or small areas of contact. After the lantern has been put into a package, the top of the envelope can be heat sealed and the assembly put into a corrugated shipping carton. You must be sure that this carton is firmly held in position to prevent movement within the carton during shipment. It is important that a thin film of polyethylene, vinyl or any other suitable plastic be used so that abrasion does not occur in shipment.

It would appear possible to develop a satisfactory package along either of the lines suggested, but, of course, the final decision will develop upon trial shipment and acceptance by officials of the U. S. Post Office Department.

Packaging electric welding rods

QUESTION: We are interested in the various ways in which electric welding rods can be packaged at high speeds. We would like to know the best weight per package, the best material for the package, the best construction and the various types of automatic machines available for packaging the finished rods. We would also like to know whether the package should contain moisture inhibitors or other means for protecting the product against dampness.

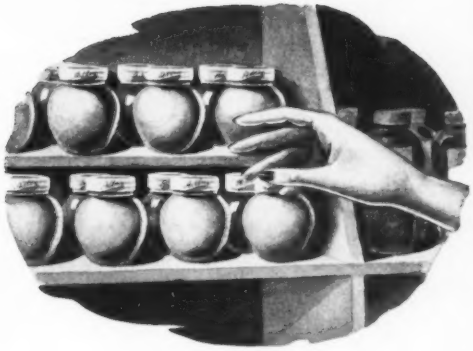
ANSWER: As the producer of the welding rods, you must make certain decisions before asking any of these questions. You must decide on the number of welding rods to be packaged per unit, as well as the number of packages of the various sizes you intend to package, both by weight and dimension. This information will determine the number of machines required for the volume you will produce and it also has considerable bearing on the type of machine you should use, since certain sizes may be best handled by the use of semi-automatic equipment rather than fully automatic equipment.

You must also decide on the amount of protection which must be given your product. This protection is of two types. First, the protection which the package must give the product to prevent losses, damage, etc. The other type of protection involves preservation and you must decide if the package shall be designed to protect the product from corrosion, moisture absorption and similar effects.

It would also be helpful if you could, by means of a survey, decide on what type of package is most acceptable to the major users of your product. It will be possible, for example, to pack welding rods by wrapping them tightly in a strong paper bundle. They could also be packaged in a heavy-walled folding carton, or in a paper tube. There are other possible package constructions, but you must decide the package form.

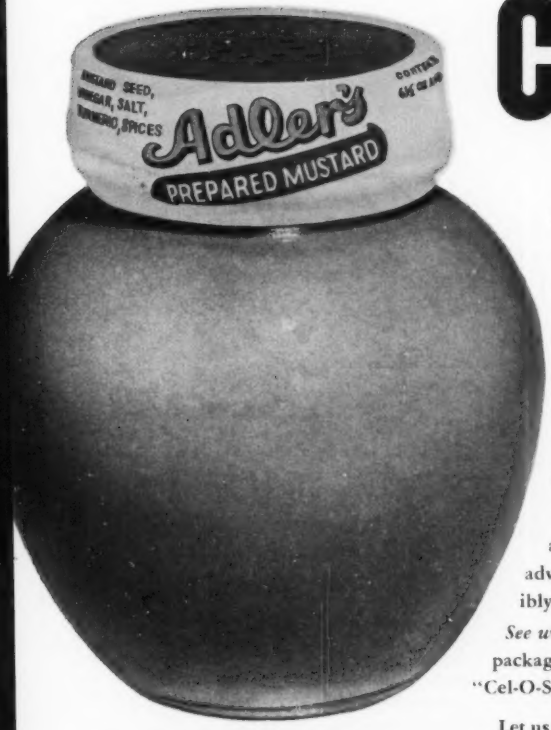
After you have the information on the foregoing points, you should obtain information on the various machines capable of making the packages you require over the size range you have decided upon and for the quantity of your estimated production. With this basic information, you will have no difficulty in making a suitable package and finding machinery to perform the operations. However, it may be necessary for you to develop special machines for the handling and filling operation, since it is doubtful if standard machines will handle this product without considerable modification.

Styled for a pick-up at point of sale with



CEL-O-SEAL

REG. U. S. PAT. OFF.



How can you catch a shopper's eye—and get *your product* into her market basket? The makers of Adler's Prepared Mustard found an answer to this question—in an attractive, re-use package labeled with a Du Pont "Cel-O-Seal" cellulose band.

This distinctive, re-usable container attracts the lady's attention. And, labeled with "Cel-O-Seal," it has *extra sales appeal*—because the bright, neat "Cel-O-Seal" label is eye-catching . . . protects against contamination and tampering, and assures the shopper that quality is protected.

Colorful "Cel-O-Seal" bands can help you in many ways at point of sale. They can relate your package to your current advertising theme or promotion. They can be imprinted indelibly with your sales message, slogan or emblem.

See what a quick pick-up your product can get—when your package is styled for point-of-sale appeal with a Du Pont "Cel-O-Seal" band.

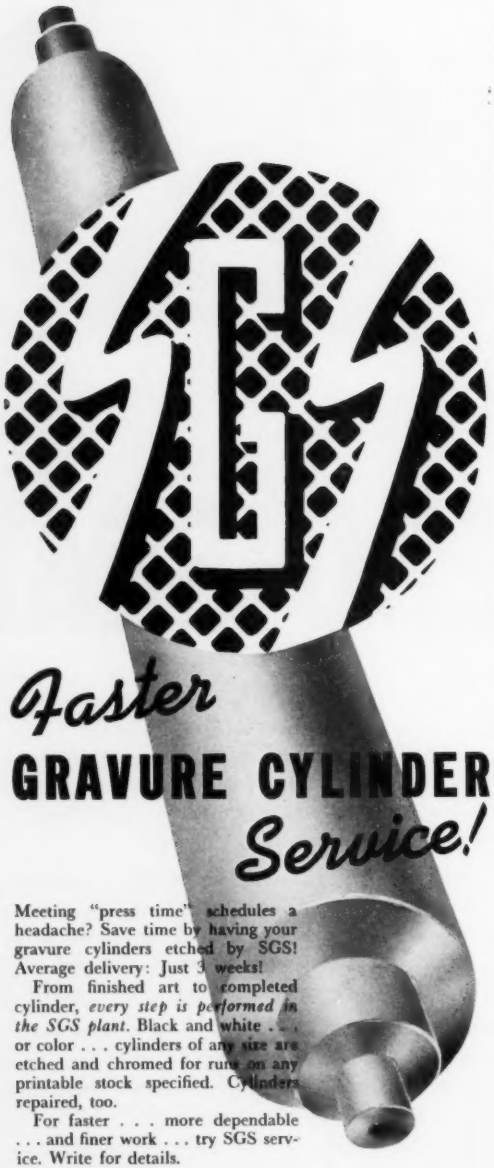
Let us help you design a sales-stimulating "Cel-O-Seal" band for your product. Just write "Cel-O-Seal" Division, E. I. du Pont de Nemours & Co. (Inc.), 9521-I Nemours Bldg., Wilmington 98, Del. "Cel-O-Seal" bands are also sold by Armstrong Cork Co., Lancaster, Pa., and I. F. Schnier Co., San Francisco, Cal.

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

DU PONT "CEL-O-SEAL" BANDS



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Meeting "press time" schedules a headache? Save time by having your gravure cylinders etched by SGS! Average delivery: Just 3 weeks!

From finished art to completed cylinder, *every step is performed in the SGS plant.* Black and white . . . or color . . . cylinders of any size are etched and chromed for runs on any printable stock specified. Cylinders repaired, too.

For faster . . . more dependable . . . and finer work . . . try SGS service. Write for details.

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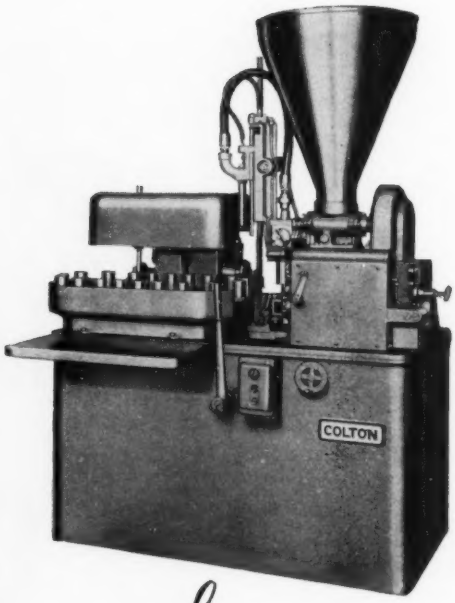

Arthur Colton Company

Presents

THE NEW No. 175 AUTOMATIC TUBE FILLING MACHINE

successor to the famous Colton No. 17—the world's most popular tube filler

Introduction of the No. 175 marks a new achievement in speed, precision and economy in filling tubes with creams, pastes, powders, liquids. Its performance is unapproached by any other tube filler.

Standard Single No. 175, 55 tubes a minute up to 1½" dia. x 7¼" long. Standard Twin, 85 a minute up to 1⅜" dia. x 7¼" long. Specials: No. 180 Single, tubes 2¼" x 7¼"; Twin, tubes 1⅛" x 7¼". Write for delivery information.

ARTHUR COLTON CO.

DIV. SNYDER TOOL & ENGINEERING COMPANY
3431 E. LAFAYETTE AVE. • DETROIT 7, MICHIGAN

See for yourself...

Stop in at a cosmetic counter in a department store. A package catches your eye, a package you fabricated from Kodapak Sheet. No wonder, you say, Kodapak Sheet is performing sales miracles . . . helping to cut costs . . . helping to speed turnover. Here's why . . .

1 *It's transparent—optically clear.*
Customers see colors, details—decide quickly.

2 *It has great brilliance.*
Shows merchandise at its best. Speeds sales.

3 *It's tough, durable.*
Withstands handling. Minimizes shopwear.

4 *It's stable.*
Does not discolor or lose clarity.

5 *It's rigid, keeps its shape.*
Relatively unaffected by humidity.

6 *It's chemically inert.*
Won't stain or discolor merchandise.

7 *It's light as a feather.*
Cuts package weight.

8 *It's uniform.*
Free from surface defects and blemishes.

9 *It's easy to handle.*
Forms readily. Fabricators like it.

10 *It's available in two basic forms—*
a sheet to fit every job:
Kodapak I Sheet, cellulose acetate, gauges up to 0.060″; Kodapak II Sheet, cellulose acetate butyrate, gauges up to 0.002″. Both forms are made to the same high standards as Kodak photographic film base.

For further information, consult your nearest representative, or write Kodak; and a visit to the Kodapak Demonstration Laboratory in Rochester will prove helpful.

Cellulose Products Division
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Rochester 4, N. Y.

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District Sales Representatives:
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Canadian Distributor:
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Kodapak Sheet

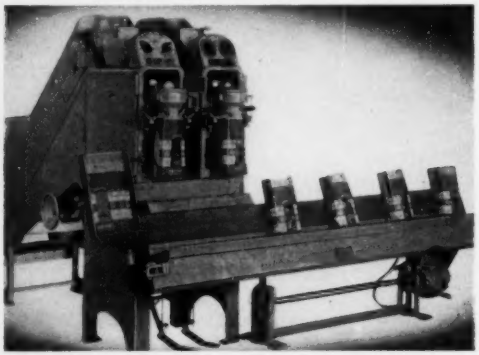
"Kodapak" is a trade-mark

FOR THE DISPLAY YOU WANT . . . THE PROTECTION YOU NEED . . .

Kodak
TRADE-MARK

Equipment and materials

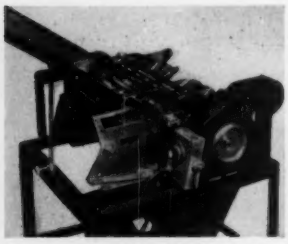
PRODUCE BAGGER
is the latest addition to the line of Elec-Tri-Pak weighing and filling machines made by Triangle Package Machinery Co., 6633–55 W. Diversey Ave., Chicago 35, Ill. The Model G2C Gross Weighing Machine, with Model O-1 Angle Conveyor (illustrated) is designed for the handling of such items as onions, lemons,



apples, oranges and smaller-sized potatoes in amounts up to 5 lbs. It is said to provide a fast bagging operation with the precision accuracy of controlled weighing to plus or minus one piece of the items handled and requires but one operator. When bagging onions, the rate of speed per minute for weighing and filling bags is as follows: one pound–14 to 18; three pounds–12 to 16; five pounds–10 to 14.

The operator places an empty open container up to one of the two filling spouts and by means of a foot pedal controls a positive mechanical bag-holding and release device. Once the bag has been properly placed into position, automatic weighing and filling begins. After this cycle has been started, the operator places a bag on the other filling spout in the same manner. When the first scale has completed the cycle of weighing and filling, the operator releases the filled bag to the Angle Conveyor which carries it to the next station for the bag-closing operation–whether heat sealing or stitching, depending on the bag material used. The unit is recommended for any central warehouse pre-packaging, or independent packer.

NEW GLUE-FEED UNIT
for automatic or semi-automatic feeding of materials to gluing mechanism and specifically for use with Gluemaster table gluers, is being offered by Kenneth J. Moore & Co., 1778 W. Estes Ave., Chicago 26, Ill. This unit, designated as the Feedmaster, places hand-fed machines on an automatic scale, eliminating the need for an operator. It can be attached to any of the Gluemaster hand-fed machines and also to other standard, hand-fed machines including multigraphs, varnishing machines, printing presses, perforators. It feeds imitation leather, book cloth, varnishing paper stock and board.

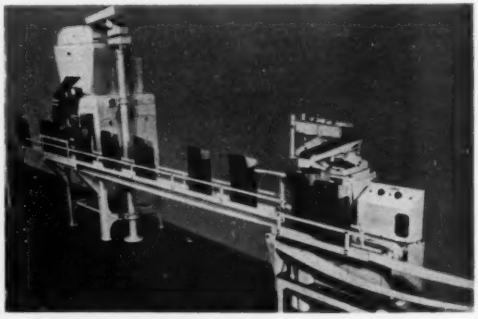


A NEW ELECTRIC COUNTER AND PACKER
designed to count and fill accurately and automatically a predetermined number of pills or capsules of uniform size and shape has been developed by Fairchild's, Inc., 1547 N. Western Ave., Los Angeles 28, Calif. The new Multiple-Speed Electric Counter and Packer, the company claims, affords an actual count with no plus or minus, while yielding three to four times the production obtained with the old model.

Several of the noteworthy improvements responsible for the increased production are: a 27-in. counting disc, compared with the former 15-in., and a new rack where the containers are fed at the end continuously.

Discs are designed to segregate various units in specified numbers and each disc is custom-built to meet specific counting requirements. Charges for discs are based on the weight of the material required and not on the number of counting holes used. The machine is versatile in that it is adaptable not only for pharmaceuticals such as coated or uncoated pills and capsules, but may also be used for buttons, hardware items, candies, gumballs and similar objects of uniform size and shape. The machine is in use at Hudson Products Co., Long Beach, Calif., for running their Sleep-Eze Tablets where one operator fills three containers of 25 tablets each in two seconds by means of a disc equipped with six separate sets of 25 drilled holes thereon. Another installation uses a disc with more than 1,000 holes, so that in filling large counts it is possible to obtain a complete fill, or even two complete fills per revolution rather than having the operator keep a count of the number of revolutions before a fill is completed.

FOR WEIGHING CRACKERS, COOKIES
and similar products into rigid containers, Wright Machinery Co., Durham, N. C., a subsidiary of The Sperry Corp., has a completely automatic weighing system, known as the Hy-Tra-Lec Model CE System. This consists of two weighers, connected by



appropriate conveyors. The first unit, the Model CE, net weighs and pre-fills the boxes to within 98% of the desired weight. The second unit, Model E, completes the filling at a piece-by-piece

Neutraglas Molded Containers are obtainable in capacities from 1 ml. to 1,000 ml.

A bulwark of resistance to chemical change—

NEUTRAGLAS

NEUTRAGLAS is Kimble's borosilicate glass which has the highest resistance to chemical attack of any known workable glass.

You'll find that containers made of Neutraglas remain undaunted by anything they contain, be it acid, alkaline or even distilled water. Nothing they hold, nothing used to sterilize them makes the slightest difference to them. Thus they are of the utmost importance for protecting solutions requiring highest purity and consistent potency.

Kimble produces serum bottles, vials and ampuls in Neutraglas. For complete information and prices, please write. No obligation.

Specify Kimble for Assurance of Container Quality

KIMBLE GLASS TOLEDO 1, OHIO

Division of Owens-Illinois Glass Company

everywhere--

The Earth
viewed by rocket camera
57 miles up

FLEXKIN®

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FOR MILITARY PACKAGING of everything from aircraft engines to G.I. rations.

FLEXKIN AL-59

JAN-P-131, Amend. 3
Type I—Class A
Type I—Class B 40# load limit
AN-B-20 Type II
All applications including AN-C-67b & AN-E-1B

Wright Field for Air Force Airplane Engine Envelopes

FLEXKIN AL-611

JAN-P-131, Amendment 3
Type I—Class B 5# load limit
Type I—Class D

FLEXKIN AL-111

JAN-P-131, Amend. 3
Type I—Class B 40# load limit
AN-B-20 Type II
All applications under AN-C-67b

Data on construction, put-up, physical characteristics and uses obtainable upon application.

ACME BACKING CORPORATION
BROOKLYN 6, N.Y.

Equipment and materials

single-file rate to within 99 to 100% of the desired weight. In a fully automatic production line in which the containers also are set up, closed and sealed by machinery, only one operator is said to be required for as many as four Model CE Hy-Tra-Lec Systems.

A slack-filled carton ejector has been included in the Model E unit. Unlike conventional weighers, these units have no spring or beam scales, but are based upon the principle of positive displacement.

Fifty of the new systems are already installed by several of the leading cracker-biscuit makers, it is reported.

A VALVE-BAG PACKER

for filling paper valve bags of 25- to 100-lb. capacity with any free-flowing substance from powder to pellets has been built by E. D. Coddington Mfg. Co., 5024 N. 37th St., Milwaukee 9, Wis. This Auger-Matic, equipped with push-button controls, is fully automatic, including weighing device with secondary adjustment wheel for fine weight adjustment. The operator slips the bag on the spout and presses push button to start the packer. When content of the bag reaches pre-set weight, the machine shuts off automatically. The operator removes the bag and tucks in the valve ready for shipment. A feature is the multiple auger which can be changed to fit the type of product being packed.

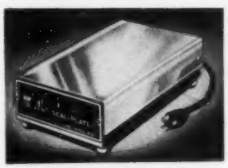
The packer can be supplied with single-speed or two-speed motor to meet the user's requirements. It can also be used for filling barrels and open-mouth bags through use of an adapter.

A NEW ANTI-STATIC AGENT

for methyl methacrylate moldings, sheet and other articles is being offered by The Chemical Development Corp., Danvers, Mass. The liquid material, called Anstac M, is reported to be inexpensive, fast drying and easy to apply. The company claims it eliminates the attraction of dust and dirt, which spoils the appearance and causes scratches, cloudiness or loss of brilliance to this type of plastic material.

A HEAT-SEALING PLATE

with a full-range temperature control from 100 through 500 deg. F. is being offered by Oliver Machinery Co., Grand Rapids 2, Mich. Now in use in chain stores, this sturdily constructed seal plate, featuring uniform heat distribution and rapid rate of heat recovery provided by the 700-watt rating, will be of interest to self-service packagers, bakeries, etc. Ample heating capacity makes the No. 791 practical for handling all types of heat-sealing wrapping materials at maximum speeds, as well as delayed-action, heat-seal labels.



A FROZEN-FOOD FILLING MACHINE

handling composite packages only is the latest development of The Elgin Manufacturing Co., Elgin, Ill., for the filling of sliced strawberries, chopped spinach, apple sauce and similar products, as well as the syruping of others. This 2-Cylinder Model "FF"

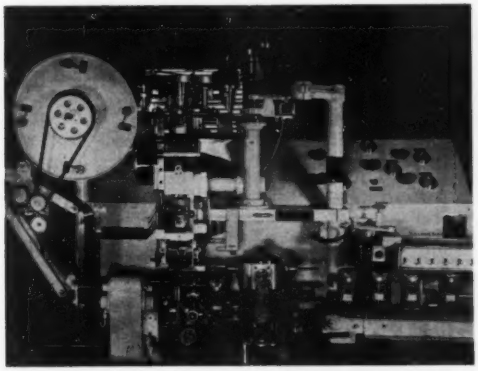
incorporates the new principle of stop-package filling in which the package is carried on a continuous moving conveyor belt and is automatically stopped and released at the filling station. The machine is equipped with an 18-gal. hopper, separately driven agitator and the newly developed fine-fill adjustment which permits accurate adjustment of the fill while the machine is in operation. The containers are fed to the machine either from a chute or a hand-feed tray.

Also available for packers using either the Marathon-type package exclusively, or that package as well as the composite package, is the Elgin Twin Filler, equipped with variable speed drive, separately driven agitator, 18-gal. conical hopper, 6-in. lug chain and the new fine-fill adjustment.

For packers presently using the previous model two-cylinder frozen-food fillers, the company is offering a conversion unit to accommodate composite packages.

FILLING, SEALING AND CLOSING MACHINE

for prefabricated square-bottom bags of cellophane and other films, at a rate of 60 or more packages per minute, has been developed by Washburn-Wilson Seed Co., Moscow, Idaho. Handling free-flowing products such as coffee, nuts, dried beans,



peas and rice, this machine is not limited to heat-sealable films, since the sealing is done entirely by glue application.

After the bag is placed onto the feeding trough, it is indexed, opened, placed on the filling spout, then fully opened by air blast and the product is discharged into the bag. A volumetric type of scale is used for pre-weighing the product. The bag is settled by two successive drops and on the final drop the gussets of the bag are tucked in and the top of the bag brought together. The top of the bag is pushed between two metal fingers and glue is applied by spraying, following which the top of the bag is rolled down, giving a roll-type seal. The machine is fully adjustable to making either an extremely tight pack or a loose pack. The bag is then removed from the closing fingers and carried under compression for the setting of the glue to the case unit. The illustration shows the machine handling beans. The machine is quickly adjusted for changes in product or size of bag.

FIVE-GALLON CAN LABELER

which will do both spot and wrap-around labeling at a rate of about 18 five-gallon drums per minute has been announced by the Burt Machine Co., 401 E. Oliver St., Baltimore 2, Md. This new labeler is of the roll-through type, handling the drums horizontally.

NON-CRYSTALLINE, FAST-SETTING ADHESIVE

specially developed for use on Universal Brightwood machines has been announced by Federal Adhesives Corp., 210–220 Wythe Ave., Brooklyn 11, N.Y. This cold liquid adhesive, known

ENGINEERED
for Automatic Packaging

ACMEFLEX®

APPLICATION.....Series No. 1
Comprehensive protection
of foodstuffs.

CANDIES COOKIES
CAKE MIXES
SOLUBLE COFFEE
MALT PRODUCTS
DEHYDRATED SOUPS
CONCENTRATED & FROZEN JUICES

ACMEFLEX properties: Hermetic heat sealing. Extremely low moisture vapor transfer. Inexpensive. Printable. Inert, non-toxic. Protection against light, loss of flavor, contamination. Sterilizable after packaging. Odorless and tasteless. Very high ratio of seam and body strength to weight.

ACME BACKING CORPORATION
BROOKLYN 6, N.Y.

A PACKAGE PER SECOND--OR MORE

LARD or SHORTENING

BISCUITS or CRACKERS

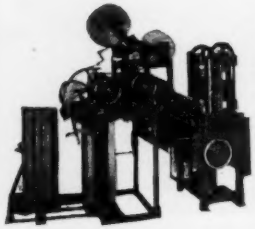
CHEESE, FROZEN FILLETS

or MACARONI

Can be packaged efficiently and inexpensively with PETERS machines.

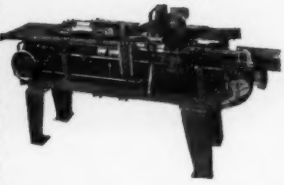
For high speed carton packaging, PETERS offers its fully automatic "Senior" line of packaging machinery, illustrated below.

Besides the "Senior" models, PETERS has available for those with lower production requirements, a "Junior" line of very versatile packaging machines which operate at speeds of 30-40 cartons per minute.



This PETERS SENIOR CARTON FORMING & LINING MACHINE EQUIPPED WITH AUTOMATIC CARTON & LINER FEEDING DEVICE sets up 60 or more cartons per minute, depending upon size of carton used. Machine is automatic. After cartons are set up, they drop onto a conveyor where they are carried to be filled.

This PETERS D & W TYPE SENIOR CARTON FOLDING & CLOSING MACHINE closes 60 or more cartons per minute, depending upon size of carton used. Fully automatic, no operator required. The packages enter the machine on conveyor belt as open, filled cartons and leave the machine completely closed, ready to be packed for shipment or to be conveyed into a wrapping machine.



Send us samples of the various cartons you are now using. We will gladly forward specific recommendations.

PETERS MACHINERY COMPANY

GENERAL OFFICE AND FACTORY

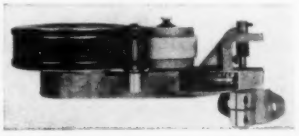
4700 RAVENSWOOD AVE., CHICAGO 40, ILL.

Equipment and materials

as Universal Brightwood Glue, is reported to possess the properties necessary for smooth and efficient operation of this particular machine. The firm claims it adheres to the most difficult stocks, is water miscible and easily cleaned from the machine. It is important to note, however, that the Universal Brightwood is the new automatic machine and is not to be confused with the Plunger-Type Brightwood.

A MARKER FOR CONVEYOR LINES

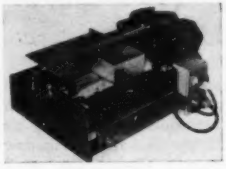
which automatically dates, codes or marks production runs of cartons or other packages has been added to the line of marking equipment produced by The Industrial Marking Equipment Co., 7 E. 48th St., New York 17. The device, called "Whippet," is attached at a convenient position on the user's present conveyor lines. Friction between the marker and the moving carton or package will do the necessary imprinting. The device will also automatically spot-print a legend.



MULTI-PURPOSE ANILINE INKS

said to afford superior results and performance on all types of cellophane, foil and other specialty stocks, have been introduced by Bensing Bros. & Deeney, 3301 Hunting Park Ave., Philadelphia 32, Pa. According to the manufacturer, the newly developed No. 400 Series enables converters and package printers to buy one kind of ink for a variety of stocks instead of purchasing special inks for each different type of stock they print.

A NEW PLATFORM BOX GLUER



for applying a coating of adhesive to platform-style boxes up to 3 in. high has been announced by the Potdevin Machine Co., 1285–38th St., Brooklyn, N.Y. The box section is fed through the gluer which, by means of a ductor roller, applies an even coating of adhesive over the entire surface, after which the operator places the glued piece on the platform of the box.

EASIER STITCHING OF LONG CARTONS

such as are used for packing venetian blinds, rods, tubing, etc., is now possible by means of the Young Horizontal Inverted Head Stitcher manufactured by Young Wire Stitching Machine Div., Diagraph-Bradley Industries, Inc., Herrin, Ill. The stitching point of the machine can be built to match any table height. The carton to be stitched is laid flat on the table; the full overlap flaps are folded over the thin narrow clincher arm which extends far enough in front of the machine to allow for them. The carton is slid in under the head of the machine and stitched.

EXCLUSIVE DISTRIBUTOR IN THE EAST

for the complete line of automatic power jaw-type bag-sealing machines manufactured by the Sullivan Heat Sealing Equipment Co. of Philadelphia, Pa., is Amsco Packaging Machinery, Inc., 31–31 48th Ave., Long Island City, N. Y. According to Amsco, the addition of the Sullivan line of equipment to its present line enables the company to offer equipment for practically any type of bag-sealing operation and production requirement.

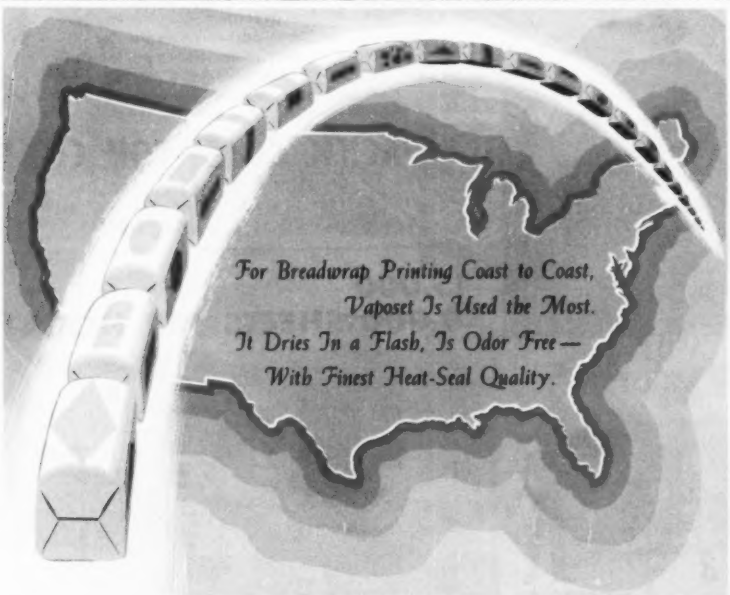
Tough Ink Specs Causin' Grief? IPI Gives Quick Relief

Are ink specs for that latest package really tough? Must the finished job withstand exposure to sunlight? Heat-sealing? Sterilizing? Rough handling? Resist abrasives, acids, alkalis, gases? Must the ink be odor-free? Is the stock "hard-to-print"? Then call IPI for inks that stand up and fight back at the roughest treatment—inks that keep all your packages looking their best for the longest possible time.

Headache, Jitters On the Way? Don't Judge Colored Inks Today

Scientific tests prove illness, emotions dull color sense. That's why inks matched after a hard night often seem to jump apart later. IPI recognizes this human weakness and recommends the recording spectrophotometer for permanent color standards. It needs no aspirin or penicillin to hit colors on the nose every time. Ask about IPI color standards with visual tolerance limits for better color control.

IPI • DIVISION OF INTERCHEMICAL CORPORATION • 67 WEST 44th ST., NEW YORK 18 • ADDRESS INQUIRIES DEPT. A


For Breadwrap Printing Coast to Coast,
Vaposet Is Used the Most.
It Dries In a Flash, Is Odor Free—
With Finest Heat-Seal Quality.

IPI Vaposet First Choice of Leading Breadwrap Printers Everywhere

Yes, it's a fact! The swing is to Vaposet. Right now nearly every major letterpress breadwrap printer in the country uses IPI Vaposet Inks. Here's why:

1. Fast drying. Vaposet Inks set instantly in the presence of steam. Many breadwrapper printers find that moisture in the stock sets and dries the ink rapidly without steam even to the web core. Web can be run through waxing machines two hours after printing.

2. Freedom from odor. You can't get a smell from Vaposet. Hot-wrapped bread will not pick up ink odors.

3. Excellent heat-sealing. Sealed ends stay sealed.

4. Good halftone screen and Ben Day printing qualities. Permit handsome effects.

Vaposet Ink Research Always a Step Ahead

Now you can get Vaposet Inks that withstand higher temperature of new waxes containing plastics. There's no ink "pull-off" after waxing. Latest Vaposet formulas have stronger, better colors than ever. And carton printers heartily endorse their better finish, improved rub resistance.

All Package Printers Profit from Vaposet

Vaposet Inks are tops for corrugated and heavy fibre stocks—especially when stock must be fabricated right after printing. It dries instantly with steam, sets fast with natural moisture in board—ideal for printing warm, moist board.

Paper cup makers like the way steam setting of Vaposet Inks softens stock for easy forming. Printers of heat-sealed labels also find Vaposet Inks the answer to their problems. In the packaging field nearly everyone bets on Vaposet.

IPI, Anilox, Vaporin and Vaposet are trade-marks of Interchemical Corporation

IT'S ANILOX FOR OPACITY, BRILLIANT COLOR ON MST CELLOPHANE FISH WRAPS

Users of MST Cellophane: You can now get superior results with low-cost aniline printing on this hard-to-print material. You can get colorful cellophane wrappers like those pictured here, with Anilox 100% pigmented inks.

Anilox gives brilliant, full-strength color without a trace of ghosting. Gives wrappers full opacity, hiding completely the inner cartons.

Packaging Products, Inc., of Kansas City, printed these wraps for the Mid-Central Fish Company of that city, in four colors, on a 42" four-color Kidder Aniliner at 125 fpm on DuPont 300 MST Cellophane.

NO PEACE OF MIND FOR PACKAGING EDITOR WITHOUT IPI COLOR PICKER

"Our art director gave me no peace until I asked you for one." That's what a packaging magazine editor wrote us about the IPI Color Picker for Packages. Handy cards, accent circles give lots of ideas for package colors, designs. It's free from IPI, 67 W. 44th St., New York 18, N. Y.

molded bottle closures
Large selection of designs in a variety of colors and sizes.
molded jar closures
in a diversity of colors, styles and sizes including standard 33, 38, 43, 45, 48, 51, 53, 58, 63, 70, 83 and 100 MM.
molded packaging specialties
Mack experience in designing sales-compelling, deluxe packaging is available without obligation. Consult our packaging experts for complete service.

MACK

—supplies all 3 quickly, economically!

Just call or write for fast, capable assistance on standard closures or exclusive custom designed closures and packaging specialties. All standard sizes are available in phenolics, ureas, styrene or polyethylene. Samples and prices on standard stock items will be supplied promptly on request — estimates on specialties will be forwarded upon receipt of your drawings or blueprints. Please address inquiries to Mack Molding Co., Inc., Main Street, Wayne, N. J.

Mack

MOLDED EXCELLENCE

THREE FULLY-EQUIPPED PLANTS TO SERVE YOU

WAYNE, NEW JERSEY • ARLINGTON, VERMONT • WATERLOO, P.Q., CAN.

LABELS BY THE MILE!

Did you ever wonder why labels are usually delivered cut and stacked in bundles?—It's simply because paper normally comes to the printer in sheets—and most label presses are built to use cut sheets.

But Pacific Coast Foil buys both foil and paper in *continuous rolls*, and literally produces high quality, full color gravure labels by the mile!

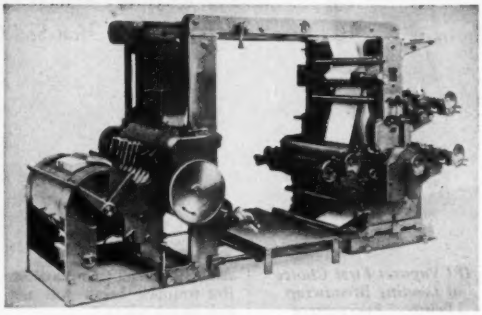
Whether you use bottle labels, box overwraps, butter or margarine wraps—investigate the efficiency of continuous roll labels in your operation! Call the sales office nearest you today!

PACIFIC COAST FOIL CO.

DIVISION OF JORGENSON & CO.

1101 BATTERY STREET, SAN FRANCISCO 11 — 1127 WILSHIRE BLVD., LOS ANGELES 14

15,000 ~~9,000~~ SHEETS PER HOUR!



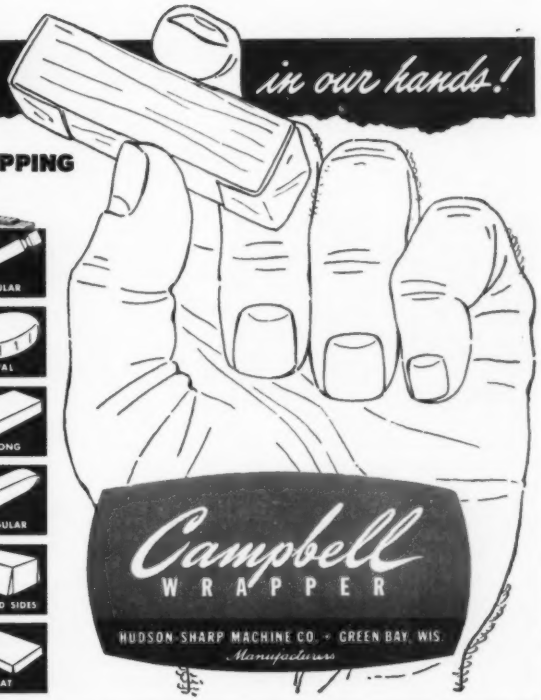
. . . available in cutoff lengths from 9⅞" to 25" graduated in multiples of ⅜". Width sizes range from 20" to 32". All sheets delivered properly aligned to allow removal from top of pile.

FULL INFORMATION ON REQUEST

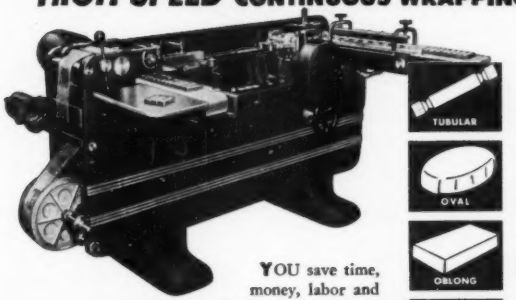
H. H. HEINRICH, INC.

500 VARICK ST., NEW YORK 14

Put your PACKAGING *in our hands!*



HIGH SPEED CONTINUOUS WRAPPING



YOU save time, money, labor and materials with this modern wrapper. Only one operator and one helper are required to deliver up to 150 units per minute, fully glued or heat sealed. Wraps products of all shapes with any type of wrapping material — without stiffeners, unless desired, and without breakage! Ideal for numerous varied products and also available with hopper feed for stick candy and similar cylindrical items. Write for illustrated brochure and complete information.

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HUDSON-SHARP MACHINE CO. • GREEN BAY, WIS.
Manufacturers

Silk Screening
on POLYETHYLENE

luxurious appearance

permanent bonding

wide color range

Send for a sample of polyethylene bottle that has been decorated by Modern Decorating. Compare its looks . . . test the durability of the decoration yourself.

Write today.

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SILK SCREEN AND OFFSET PRINTERS ON PLASTIC, GLASS, WOOD AND METAL

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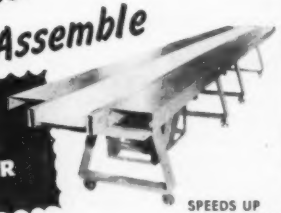
Pack, Inspect and Assemble
with ISLAND UNITIZED CONVEYOR TABLES



SPEEDS UP PRODUCTION

An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

FREE!

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See our exhibit at the Packaging Show Booth 557

Plants and people

Further expansion of plant facilities in Cleveland have been announced by **The Dobeckmun Co.** New facilities include a three-story building which will accommo-

date the art and sales departments and local sales offices; 100,000 square feet of warehouse space to consolidate the company's storage operations which formerly were handled from three separate locations; new heating plant, and extensive shipping and receiving areas.

Dewey & Almy Chemical Co., Cambridge, Mass., announces the purchase in Cedar Rapids, Ia., of a site for the erection of a factory to manufacture Cry-O-Rap plastic bags used in the packaging of frozen meat, fish and poultry, and smoked, cured and processed meats. The Cedar Rapids plant is expected to double the production of Cry-O-Rap bags. Present plans call for approximately 200 employees and a production of 100,000,000 bags a year.

John M. Cook has joined the **Cryovac Division** of **Dewey & Almy Chemical Co.** to do development and sales service work, particularly with frozen foods. Mr. Cook has been in the frozen food field for 20 years and prior to joining Dewey & Almy was in charge of packaging and development at Colonial Provision Co., and previously was with General Foods and Hygrade Food Products.

Hultkrans

Paul Hultkrans, in charge of Research and Product Development at **Milprint, Inc.,** Milwaukee, Wis., has been elected a vice president. With headquarters at the new Milprint plant in Milwaukee, he will lead the company's accelerated program of packaging requirements for essential products used for war and defense as well as new packaging applications for civilian use.

Eastern offices of **J. L. Ferguson Co.,** Joliet, Ill., builders of Packomatic automatic packaging machinery, are being moved from 99 Lincoln Park, Newark, N. J., to the Kinney Building, 790 Broad St., Newark. **Carl A. Claus** is resident vice president in charge of Eastern operations.

Marathon Corp., Menasha, Wis., manufacturers of protective food packaging materials, announces the purchase of a factory building at Sunnyside, Wash., to increase its manufacturing facilities for supplying the growing food industry on the West Coast. Sunnyside is situated in the Yakima Valley and is about equidistant from Spokane, Seattle and Portland. The one-story plant will include offices as well as manufacturing facilities. It is expected that production will begin during the first half of 1951. **John W. Reimer** of Menasha, Wis., who has been with Marathon for 17 years, has been named resident manager of the new plant.

A $3,000,000 expansion program is planned at the Ontario plant of **Marathon Paper Mills of Canada Ltd.,** a subsidiary of Marathon Corp. Construction is expected to begin in the spring and will include a chemical plant for the manufacture of chlorine, caustic soda and sodium sulfide. This expansion is expected to mean considerable savings to the mill since all chemicals used for the manufacture of the bleached sulphate pulp made at the pulp mill formerly had to be purchased and shipped to Ontario at high costs.

The **Calvert Lithographing Co.,** Detroit, one of the oldest lithographing companies in the country, has been acquired by a group headed by **William H. Sills,** chairman. Officers and board of directors are: **Robert A. Ritter,** president; **Harry B. LaRocca,** financial vice president; **William S. Heigho,** vice president; **Thomas J. Boodell,** secretary; **D. J. Harris** and **Frank W. Barnard.** Other officers are **Kurt G. Hinz,** assistant treasurer and **Frederick G. L. Huetwell,** assistant secretary. Mr. Barnard is sales manager and **Paul J. Povenz** continues as general superintendent.

Eileen Clifford Walsh announces her resignation as sales promotion director and advertising manager of **Crystal Tube Corp.,** Chicago. Mrs. Walsh, who has been with the company since 1937, is entering the free-lance, business-writing field.

The Floyd A. Holes Co., Bedford, Ohio, announces the appointment of the **Fred R. Summers Co.,** Los Angeles, as its representative for the state of California.

Upressit Products Corp., New York, manufacturer of Upressit caps and seals for cans, bottles and other containers, has appointed the **Morton-Meyers Co.,** 3201 Southwest Blvd. at State Line, Kansas City, Mo., as distributor of its products in the Kansas City area.

John G. Bucuss, general manager, Strapping Division, **Acme Steel Co.,** Chicago, has been elected president of the **Materials Handling Institute** for 1951. He has been associated with Acme Steel for 32 years and has served as director and officer of the Institute for the last three years.

Food Machinery & Chemical Corp., San Jose, Calif., announces the election of the following vice presidents: **Clifford K. Wilson,** manager of FMC's **Sprague - Sells Division,** Hoopeston, Ill., which manufactures food processing equipment for the canning and freezing industries; **Hubert L. Byrd,** manager of FMC's **John Bean Division** at Lansing, Mich.; **Prof. William L. Campbell** with offices in San Jose. Professor Campbell was formerly head of the Food Technology Department of the Massachusetts Institute of Technology.

Wilson

Campbell

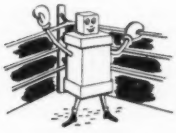
Robert Burkholder has been appointed sales representative for the newly established Southeast territory of the **Sprague-Sells Div.** of **Food Machinery and Chemical Corp.** with sales office at 19 Lakeshore Drive, Avondale Estates, Ga., just outside Atlanta.

Sprague-Sells Division also announces a new sales office at 2005 Northwestern Ave., Indianapolis 8, Ind., to serve food packers in Ohio, Indiana and Kentucky. **James L. Frasier,** who has been serving these states out of Hoopeston, Ill., has been transferred to the Indianapolis office.

The following organizational changes in the sales staff and sales districts have been announced by **Acme Steel Co.,** Chicago: **William E. Close,** former New England district manager, national account supervisor for the Eastern area with headquarters in New York City; **Vincent F. Murphy,** New England district manager; **Gardner W. MacDonald, Jr.,** and **George R. Timm,** Boston sales territory.

With headquarters in Atlanta, Ga., **William G. Polley,** sales engineer, will provide specialized services to customers in the South. **Clarence A. Carrell** has been appointed district manager of the newly formed Atlanta sales district covering Florida, Georgia, Alabama and Ten-

PATENTED



This sturdy lightweight shipping box handles a heavyweight's job!

Nuts and bolts, castings, hardware, metal extrusions, nails, textile yarns and finished goods, and similar heavy and bulky products really give a shipping box a beating. Until this H & D lightweight came along, only "heavyweight" boxes could take such punishment. But with stitched caps on half outer liners that completely eliminate distortion in stacking, this low-cost box takes all the beating a heavy load can hand out. No wonder it cuts packing and freight costs!

For scores of ways to cut shipping costs . . . to lower packing costs . . . and to increase sales through better display, write for H & D's book, "How to Pack It." Hinde & Dauch, 5102 Decatur St., Sandusky, Ohio.

H&D®

HINDE & DAUCH
Authority on Packaging

FACTORIES IN: Baltimore • Buffalo • Chicago • Cleveland
Detroit • Gloucester, N. J. • Hoboken, N. J. • Kansas City, Kan.
Lenoir, N. C. • Richmond, Va. • Sandusky, Ohio
St. Louis • Watertown, Mass. *Offices in principal cities.*

Plants and people

nessee, and **G. R. "Red" Easley,** district manager of a new sales territory consisting of Virginia, North Carolina and South Carolina. **Judd B. Farr** has been assigned to the South Carolina territory previously handled by Mr. Easley, and **John J. Jorgensen** has been transferred to the Chattanooga, Tenn., sales territory.

After 52 years' service with **Dennison Mfg. Co.,** Framingham, Mass., **Walter M. Hilliard** has announced his retirement. A pace-maker in box research since 1898,

Hilliard

Mr. Hilliard was appointed head of Dennison Box Design Development in 1932 and has served in that capacity for 18 years.

Paul L. Karstrom Co., manufacturer of Spee-Dee carton and filling machinery, announces the appointment of **Paul Hagen** as sales representative for the metropolitan New York area, Connecticut, New Jersey and part of Pennsylvania, with headquarters at 507 Fifth Ave., New York City.

National Starch Products Inc. announces the following promotions in the sales executive division: **Donald D. Pascal,** with the company since 1929, vice president in charge of sales with headquarters in New York City; **S. F. "Woody" Thune,** formerly sales manager of the Mid-Western Division, general manager of that division, and **Lester Klempner,** sales manager of the New York Division, sales manager of the Eastern Division, extending from Maine to Florida.

B. C. Polglase, Jr., has been named works manager of the Mt. Vernon, Ohio, plant of **Shellmar Products Corp.** He has had broad experience in the printing industry as general superintendent of the Hanover plant of Doubleday & Co., Inc.; chief engineer of the American Colortype Co., Chicago; assistant chief engineer of Lehmann Machine Co., St. Louis, and design work for Goss Printing Press Co., Chicago.

Polglase

Ottawa River Paper Co., Toledo, Ohio, announces the election of three new officials. **Arthur W. Seward,** factories manager, will be vice president–manufacturing; **William H. White,** formerly sales promotion manager of the Ohio Boxboard Co., Rittman, Ohio, will be vice president–sales. **Gaylord E. Hutchison,** controller, assumed the additional title of assistant treasurer. Plans were announced to expand the productive capacity of the Toledo plant 30%.

Built around Andre's new principle of box manufacturing, the **Andre Paper Box Co.** has started operations at its new half-million dollar factory in San Leandro, Calif. The main sales office will remain in San Francisco. Andre manufactures special folding boxes, principally of laminated materials.

Shaw Insulator Co., Irvington, N. J., has appointed **Stanford H. Shaw** as sales manager and retained **George A. Johns** as sales consultant.

The **Markem Machine Co.,** manufacturers of industrial marking and printing machines, type and ink, announce the opening of a new, expanded plant on Congress Street in Keene, N. H. The plant consists of two buildings, one housing production facilities and offices for the manufacture of machines, printing elements and supplies and the other houses research and manufacturing facilities for the Ink Division. The original Marken Machine Co. was founded in Boston in 1911 by **Fred A. Putnam,** and his son, **Claude A. Putnam,** is now president of the company.

Sun Tube Corp., Hillside, N. J., has purchased a plant at Linden Ave. and Hillside Blvd., South San Francisco, to serve cus-

tomers on the Pacific Coast. **King & Anderson,** sales agency, will represent Sun Tube on the West Coast.

Andrew J. B. Adams, president and general manager of the **Economic Machinery Co.,** Worcester, Mass., **Division of Geo. J. Meyer Mfg. Co.,** has announced his retirement after 24 years with the World Labeler organization. Succeeding Mr. Adams as general manager is **Ernest A. Oliver.**

Donald K. Tressler, formerly consulting food technologist, has been appointed scientific director, **Quartermaster Food & Container Institute for the Armed Forces** and will direct the research and development program on foods and food packaging. Dr. Tressler is a leading authority on many phases of food research and technology and has had wide experience in the food and container fields. His career includes teaching food chemistry at Oregon State College; scientific assistant, U. S. Bureau of Fisheries, Washington, D.C.; fellow, Mellon Institute of Industrial Research, Pittsburgh; chief chemist, Birdseye Laboratories, Gloucester, Mass; head of the Chemistry Dept., N. Y. State Agricultural Experiment Station, Geneva, N. Y., and service on the Advisory Board, Research and Development Branch, Quartermaster Corps.

Chauncey

Interchemical Corp. announces further executive changes as follows: **A. Wallace Chauncey,** vice president and treasurer, resigned as treasurer and will continue as a director; **Claud Brown,** vice president of the IPI Division will succeed Mr. Chauncey as treasurer.

International Printing Ink Corp., Ltd. of California, a subsidiary of **Interchemical Corp.,** has transferred its business and assets to Interchemical Corp. and will continue business as the Pacific District of IPI under the name **International Printing Ink Division of Interchemical Corp.**

Brown

Paul N. Baxter has been appointed divisional vice president of IPI and manager of the Pacific district, with offices in San Francisco.

Branch managers on the Coast are **Ernest A. Green,** Los Angeles; **A. Reese,** Portland; **Gordon L. Smith,** Seattle. Manufacturing operations will continue at Oakland and Los Angeles. **Luke F. McGuff,** formerly with the Chicago factory, has been appointed manager of the Oakland factory and **R. E. Carlson** will continue as manager at the Los Angeles factory.

Dominion Paper Box Co. Ltd., Toronto, announces the retirement of **Robert S. Dunlop** as general manager, and the appointment of **Charles W. Stephens** to that position. Mr. Dunlop has been general manager for 28 years and will remain with the company in a consulting capacity. Other appointments are **Clifford S. Smith,** assistant manager and comptroller; **F. B. Trelford,** sales manager.

Crown Can Co. announces the expansion of warehouse facilities for several of its plants. A new warehouse building is nearing completion at the Philadelphia plant; additional facilities have been secured in Baltimore at Colgate Warehouse and Transit Warehouse and in Chicago at 1428 W. 37 St.

Several appointments have been made at Crown Can. **Victor Kronold,** formerly Philadelphia district sales manager, is now manager of the Packers Can Sales Division. **Burk Kraleman** has been promoted to

Swift's Adhesives help you

make Dad comfortable

Dad doesn't know it, but the book he reads may be bound with Swift's Adhesives. His beverage bottle may have been labeled with Swift's Adhesive. And there's a good chance the "snack" he's enjoying came from a package sealed with Swift's Adhesive. Why? Because packagers, bottlers, bookbinders, and many other manufacturers use one or more of the hundreds of Swift's Adhesives.

Our years of adhesive experience, our wide range of raw materials can help you find the adhesive that fits *your* requirements and lowers your operating costs.

Two of our many special adhesives for packaging operations are:

Swift's #1262 — *Liquid adhesive for top and bottom sealing and titewrap work.* A fast-setting, non-warp adhesive; easy to handle. Provides a strong bond.

Swift's Textite — *For quality setup box work.* In convenient cake form — it is non-warp and light colored for finest work. Economical because of its better coverage resulting in lower final cost.

Test these adhesives at quantity prices. Clip the coupon!

Call SWIFT first for ADHESIVES

Swift & Company
Adhesive Products Department
Chicago 9, Illinois

Please send your 100# introductory trial shipment of ☐ 1262, ☐ Textite at the quantity price, to be tested for use in our operations. We understand, if not fully satisfactory, they may be returned for credit at your expense.

Name _____ Title _____

Firm Name _____

Address _____

City & State _____

This offer expires April 30, 1951 MP-12

KNOWN THE WORLD OVER

Illustration shows 4 color aniline press, inbuilt type 46" wide, suitable for printing film, foil, glassine, paper and plastic materials. Same design is also available for 2 and 3 color, 30" and 45" printing widths with cylinder circumferences from 11¾" to 24".

REMEMBER THE NAME

Halley Engineered

THREE & FOUR COLOR

ANILINE PRESSES

Unit construction permits the installation of a one color unit to which any number of additional units can be added. Made for 30" and 36" printing widths, cylinder circumferences from 11¾" to 27½".

Submit your packaging problem and we will come up with a profitable suggestion. There's no obligation.

DESIGNED AND MANUFACTURED BY

JAMES HALLEY & SONS LTD., WEST BROMWICH, ENGLAND

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Plants and people

Philadelphia district sales manager, which now includes the Pittsburgh district. **E. P. Stuart** and **R. W. Peterson** have been appointed assistant managers of the New York and Chicago sales districts, respectively. **R. M. DeMott** will be manager of the New Jersey sales territory, excluding South Jersey which is covered by the Philadelphia office. **C. C. Colyer** has been made special sales representative for Beverage Can and Spra-tainer Sales for the company.

H. J. Burt, who has spent more than 30 years in the can manufacturing business, has been appointed assistant general manager of the Manufacturing Division, with headquarters at the home office in Philadelphia. He formerly was a division manager with Continental Can Co. and prior to that was with American Can.

J. L. Paper Box Co., Attleboro, Mass., has been purchased by **Donald C. Morse,** vice president and general manager, and a group of local businessmen. The new corporation under the same name will be headed by **Clarence C. Gray,** president. **Marion F. Gray** is secretary. Mr. Morse continues in the same capacity. Plans are being made for the modernization of the plant, continuing the manufacture of set-up paper boxes for use by the jewelry and cosmetic trades.

Morse

Continental Can Co. announces the opening of a new **Bond Crown & Cork Co.** district sales office at 110 E. Wisconsin Ave., Milwaukee, Wis. **R. A. Kummerow** will continue to serve as Bond district sales manager.

John P. Brennan and **William F. Leonhart,** Continental Can plant managers at Syracuse and Pittsburgh, respectively, were recently retired after many years of service with the company.

Chicago Show Printing Co. announces the appointment of **Harrie Pearson** as point-of-sale representative in Louisiana and portions of Alabama and Mississippi. His office is at 1031 Royal St., New Orleans, La.

A demonstration of wirebound shipping containers for fresh fruits and vegetables was held on December 8 at **Package Research Laboratory,** Rockaway, N. J. The stacking ability of the crates and their ability to withstand rough handling were shown, covering a discussion of their design and development which includes in-

With the right accessories stock bottle #A-4445 becomes a highly individual container—at low cost

MAKE-UP makes the difference!

Imagination and ingenuity can make a face or a container *stand out*

A DIFFERENT CLOSURE, an unusual use of color, a striking label—presto! A stock-mold Duraglas bottle becomes a package of distinction that will stand out anywhere.

Unchanged by the beauty treatment, of course, are the strength, operating economies and low original cost of Duraglas stock-mold containers.

And there is no limit to Duraglas container individuality. So for all your packaging needs, from bottles to closures and shipping cartons, with package distinction built-in, *look to Owens-Illinois complete packaging service.*

Duraglas TRADE MARK REG. U.S. PAT. OFF. bottles are protectors of quality

OWENS-ILLINOIS GLASS COMPANY • TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

It Defies Wear

High Sheen Printing on Polyethylene & Glass

It's so amazing you may not believe it without making tests yourself . . . but when Poly Perm decorates your packages, the result is printing that just won't come off. Other features: our clear, imprinting is flexible . . . will not crack, peel or smear, is alcohol resistant and 100% oil proof. It is unaffected in hot or cold, clear or saponified water, even when briskly rubbed. Send sample to be printed and quoted on.

POLY PERM PRINTING, INC.

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Suitable for anything that's packaged in tuck end cartons. Production: 25-35 cartons per minute. Fast changeovers. Compact. Portable. Low cost.

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See us at the A.M.A. Packaging Exposition, Atlantic City, April 17-20

William B. Sanford, Inc.

601 W. 26th ST., NEW YORK 1, N. Y.

Plants and people

spection and supervision at packing, loading and destination.

H. V. Hodge, assistant sales manager of **River Raisin Paper Co.** since 1936, has been promoted to general sales manager, with headquarters in Monroe, Mich.

Hodge

A three-day sales conference which recently was held by **United Board & Carton Corp.,** Syracuse, N. Y., was attended by salesmen from 21 states east of the Mississippi. Scientific market analysis and research were presented and the salesmen were advised of company policy and sales plans for 1951.

Arnold L. Cascarano has joined United as a trainee in the design department.

W. D. McLean, assistant director of the Jute Department of **Bemis Bro. Bag Co.,** Boston, recently returned from a trip to India and Pakistan. As a result of conferences with authorities in Calcutta, there will be an Indian burlap allocation system which it is hoped will provide increased burlap supplies for the United States during 1951.

James L. Knipe, vice president in charge of corrugated container sales at **Union Bag & Paper Corp.,** New York, has been elected to the board of directors.

The following changes in sales representatives have been announced by Union Bag: **James Bolger,** formerly in New York, will handle Flexible Packaging and **Harry C. Lawless, Jr.,** formerly in the Southeastern territory, will handle Standard Products for the New England States, with headquarters in Boston. **J. L. Bellis** will handle Standard Products sales for New Jersey and **James Fitzsimmons** will take over duties in the multiwall sales division, with offices in New York.

P. W. Simmons, plastic molding powders salesman of the **Dow Chemical Co.,** has been elected president of the Newark Section of the **Society of Plastics Engineers.**

Frank J. Danner, who has been in the traffic field since 1897, has retired as general traffic manager of the **Chase Bag Co.,** Chicago, a post he held for more than 25 years. He will be succeeded by his assistant, **A. P. Ellerbrock.**

Robert F. Reyher, formerly sales-service manager in the Terre Haute, Ind., office of

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of quality folding boxes and displays for every type of merchandise designed and produced with

real economy

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Plants and people

Wabash Fibre Box Co., is the company's new salesman for northern Indiana and southern Michigan. He will succeed **Karl W. Petersen** who died Dec. 24.

Strasser

Morningstar, Nicol, Inc., New York City, announces that **Jerome P. Strasser** has joined its management to direct the development and application of starch specialties and adhesives to the paper industry. He was formerly vice president of Stein, Hall & Co. in charge of the paper department.

The **Howe Scale Co.,** Rutland, Vt., announces the opening of two new branch offices. One office is located at 2524 Walnut St., Denver, Colo., and will be managed by **Daniel O. Ferris;** the other is at 2215 McKinney Ave., Houston, Tex., with **Henry K. Leonard** as manager.

Robert L. Gibson has been promoted from assistant general manager to general manager of **General Electric Co.'s Chemical Department,** Pittsfield, Mass.

Plans to erect a new quarter-million dollar addition to its main office building in Middletown, Ohio, were announced by the **Gardner Board & Carton Co.** The 17,000 sq. ft. addition is to permit expansion of the main office, which will be consolidated with the engineering and employment offices.

The following promotions have been announced by Gardner: **Richard D. Williams** as assistant supervisor of industrial relations for the Middletown plants and offices; **Benson B. Martin,** sales representative in charge of retail box sales in the New York office to replace **Charles A. Lee,** who was recently promoted to manager of retail box sales; **Charles I. Baker,** salesman in the retail box department.

Recognition for an outstanding safety record was given to the Newark, N. J., plant of **Celanese Corp. of America** when the plant received the Distinguished Service to Safety Award of the **National Safety Council.**

I. W. Wilson, senior vice president of **Aluminum Co. of America,** Pittsburgh, has been named the aluminum industry's "Man of the Year" by *Modern Metals* magazine.

George H. Lynn has been appointed general sales manager of the **Hamilton Division, Baldwin-Lima-Hamilton Corp.,** Hamilton, Ohio, and will be in charge of

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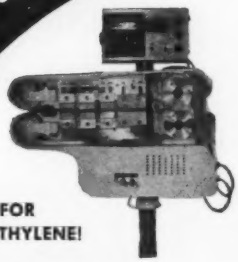
Sav-Way Sara Sealer



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You'll seal polyethylene film perfectly at speeds up to 65 feet per minute on the new Sav-Way Triplex Sara Sealer. It makes no difference whether it's 1 mil film or 20 mil film . . . the Sara Sealer is completely adjustable.

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Due to the limiting controls on the heating shoes, you get a *gradient seal*—a stronger seal with all stresses evenly distributed. No mashed seals.

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The Sav-Way Sara Sealer has proven its value in production. It successfully seals foil, saran, vinyl, cellophane, pliofilm, coated materials . . . anything that's heat sealable.

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Head tilts 90 ° for easy feeding. Seals gusseted bags. Water cooled cooling shoe. Heat controlled to ±1 °F.

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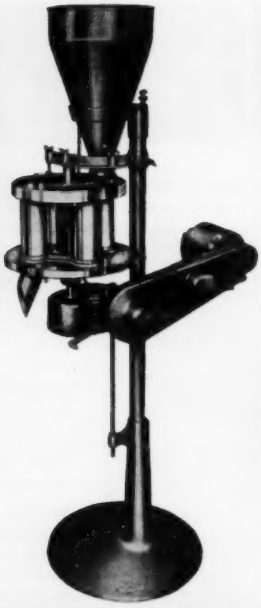

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RAYBESTOS
eliminated errors...
cut costs...
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by marking its own boxes and labels

You can do the same. Like Raybestos, you'll find that installing a Markem Box Marker in your plant is a highly profitable move. Like Raybestos, you'll eliminate errors that go with inserting pre-marked panels in packages, sticking on labels, or hand stamping. Like Raybestos, you'll cut costs of printing and heavy inventory of pre-printed stocks. Like Raybestos, you'll speed packaging operations by being able to mark the exact number of units you need, when and as you need them.

The Markem Box Marker can do all this for you, too. Readily adaptable to marking different size boxes (and labels as well), it's also designed to permit swift, easy changes of type. Find out more about this dependable machine. Write us today, enclosing typical samples of what you are marking, and we'll rush all the facts to you.

MARKEM MACHINE COMPANY
Keene 25, New Hampshire

Plants and people

sales of machine tools, can machinery, diesel engines and special equipment. He formerly was western district manager for Niles Tool Works Division of the company.

Andre Piche, formerly managing director of **Dominion Foils (Canada) Limited,** has been appointed executive vice president

Andre Piche (left) and J. P. Gledhill (right).

and managing director, and **J. P. Gledhill** has been promoted from general sales manager to vice president in charge of sales for the company.

Frank N. Kelly, with the **Electric Boat Co.** since 1917, has been appointed manager of the **Printing Machinery Division,** continuing also in his capacity as assistant treasurer of the company. **Peter Rice,** who previously directed sales in the Eastern area, has been appointed general sales manager for the **Printing Machinery Division.** He has been with the company since the formation of this division and prior to that was associated with Brett Lithographing Co., Grinnell Litho and Industrial Lithographic Co., Inc.

John C. McGunnigal, formerly general sales manager of **Brainard Steel Co.,** has been appointed sales manager of the **Steel Strapping Division** of **The Stanley Works,** New Britain, Conn.

Charles D. Sparks of the Minneapolis office of **The Hinde & Dauch Paper Co.,** Sandusky, Ohio, has been promoted to district sales manager of the company's Chicago sales office.

Harlan T. Longnecker, assistant manager of Sales Division C of **Sutherland Paper Co.,** Kalamazoo, Mich., has been appointed manager of the division to fill the vacancy caused by the recent death of **Leo J. Dickey.**

Wilkata Folding Box Co. announces the opening of new offices at 300 Hoyt St., Kearny, N. J.

N. J. Strauss, vice president in charge of sales of **Freydberg Bros.-Strauss,** manufacturers of ribbons, yarns, bindings, etc., has resigned and sold his interest. He will

be president of the newly formed **American Astral Corp.**, 10 E. 39 St., New York. The new concern plans to produce gift tying ribbons and art needlework products.

Simplex Packaging Service has moved to expanded quarters at 383–387 40th St., Oakland 9, Calif.

J. J. Hudson, head of the industrial engineering department of **Sherwin-Williams Co.,** has been appointed superintendent of the company's new $500,000 tin can plant at Hubbard, Ohio.

Edward Gustave Jacobsson & Associates, merchandising and packaging consultants, have moved their offices to 147 E. 50 St., New York City.

Michael Saphier Associates, industrial designers, announce the removal of their offices to larger quarters at 350 Madison Ave., New York 17.

Edward Clinton Hollingsworth, vice president in charge of sales of the **River Raisin Paper Co.,** died in his home at Monroe, Mich., at the age of 68. He was a pioneer in the fibre container industry and had been associated with the River Raisin company since 1914.

William Brown Bell, president of **American Cyanamid Co.,** died of a heart attack on Dec. 20 at Marrakeech, French Morocco, while there on a business trip. Mr. Bell became president of American Cyanamid in 1922 and was instrumental in integrating the numerous companies merged to form the present company. He was honored for distinguished contributions to advancements in the chemical industry, was a member of the board of directors of the National Assn. of Mfrs., a director of several banks and industrial companies, and in addition to his business and industrial interests took an active interest in the field of education.

George T. Walne, vice president of the **General Box Co.,** Chicago, died at the age of 46 of a heart attack on Jan. 2 en route to his home in Louisville. He joined General Box in 1926 and practically all of his career was spent in the packaging field. After successive advances he became sales manager for the combined Louisville and Central territories of General Box.

Boyd Daugherty, retired head of the **Bemis Bro. Bag Co.** New York sales office, died, Dec. 30, at Port Washington, Long Island, N.Y.

Earl H. Eustice died in Cleveland, Dec. 26. He had been manager of the Cleveland office of **J. L. Ferguson Co.,** makers of Packomatic machinery, for 10 years.

TRANSWRAP

POWDERS TABLETS FREE FLOWING SOLIDS LIQUIDS OR SEMI-LIQUIDS

package your liquid products automatically at lower cost!

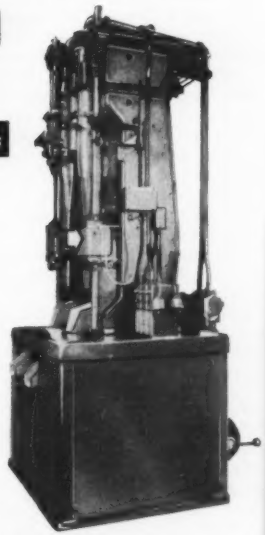
✓ lower **initial costs**

✓ lower **operating costs**

✓ lower **maintenance costs**

Leading, nationally known packagers have installed Transwrap liquid feed machines—for their (1) simplicity, (2) three-way economy, and (3) versatility. Their records prove high labor savings—one machine equals the output of fifteen to eighteen hand operators; plus additional savings on eliminating the purchase of ready-made bags. "Downtime" is practically eliminated; repairs are negligible.

Transwrap liquid feed machines offer you the full advantage of automatic, hi-speed packaging of a limitless variety of liquid and semi-liquid products — in the food, drug, chemical and other processing fields. Just to name a few . . . catsup, salad dressing, mustard, sauces, horse-radish, flavoring agents, oleomargarine, cheese, preserves, jams, paints, extracts, liquid chemicals and pharmaceuticals.



LIQUID FEED UNIT, SHOWN—designed to package all types of liquids and semi-liquids. Output 40 to 120 per min.—5 cu. in. to 80 cu. in.; pillow or fin-seal pkgs., all heat-sealing materials, sizes—1-13/16" x 3" to 5¼" x 13". Pressure feed by positive displacement piston type pump, or small Bosch-type pump. 4' x 5' x 8'; 2150 lbs.; ¾ h.p. motors, 1600 w.

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For your information

The **National Paper Box Manufacturers Assn.** has announced the names of judges for the set-up paper box competition to be held concurrently with the association's 33rd annual convention in Atlantic City, June 3 to 6. The panel consists of **Martin Ullman** and **Gustav Jensen,** New York package designers; **John H. Paterson,** (retired) for years executive of F. N. Burt Co.; **Andrew G. Burry,** Wayne Paper Box and Printing Corp.; **Richard Morey,** Acme Paper Box Co.; **Sidney Dickens,** Chicago package designer; **Milton Schuette,** president of J. L. Hudson Co.; **Howard C. Minnich,** U. S. Printing and Lithograph Co.; and **William F. Daley,** vice-president of General Baking Co.

All entries will be exhibited at the convention. Winners, chosen prior to the convention, will be announced June 4 and prizes will be awarded the following morning. Scrolls and plaques will be given to the winning box manufacturer of each prize entry and to his customer as well.

"**Pre-packaging and National Defense**" is the title selected for the **First Annual Conference and Exposition** of the **Produce Pre-Packaging Assn.** to be held in Columbus, Ohio, Apr. 3 to 5. Plans for the program have neared completion, according to **Howard Ruetenik,** general chairman of the conference committee. **Paul B. Dickman,** president of the association, states that progress in the industry will enable it to contribute substantially to the nation's emergency economy by alleviating problems of labor and transport shortages. **Albert Allen, E. I. du Pont de Nemours & Co.,** is chairman of the program committee. **R. D. Handley,** advertising manager of Sylvania Division, American Viscose Corp., is in charge of exhibits.

Certificates of Management Excellence for 1950 have been awarded four companies in the packaging field by the **American Institute of Management,** New York, according to **Jackson Martindell,** president of the non-profit foundation. The awards, which will be given annually hereafter, are based on a continuing study of more than 2,000 leading concerns in the United States and Canada.

The packaging firms receiving the 1950 award were: **Armstrong Cork Co., Container Corp. of America, Creamery Package Mfg. Co.** and **Hinde & Dauch Paper Co.** Ten separate fields are surveyed in making each award: economic function, corporate structure, health of earnings growth, fairness to stockholders, research and development, directorate analysis, fiscal policies, production efficiency, sales vigor and executive evaluation.

Bemis Bro. Bag Co., 408 Pine St., St. Louis 2, Mo., is distributing a new 22-page booklet, "**Multiwall Packaging Guide,**" describing and illustrating ways to use all types of multiwall paper bags more efficiently and economically. The book is timely in view of the current paper shortage and the consequent need for getting better service from paper bags, nearly two billion of which are used yearly. The booklet deals with the storage of empty bags, filling, closing, handling of filled bags, palletizing and other related topics.

"**Some Aspects of Food Refrigeration and Freezing**" is the title of a manual recently published by the **Food and Agriculture Organization of the United Nations,** Washington, D. C. Representing contributions from experts in various countries, the 205-page, illustrated manual deals with a wide range of refrigeration problems under the following headings: Principles; Ice —Production and Use; Household Refrigerators, Home Freezers and Locker Plants; Construction of Cold Storage Plants; Refrigerating Machinery; Methods and Apparatus for Commercial Freezing; Packaging Materials and Machinery; Judging Flavor, Color and Texture of Food; Plant Sanitation; Chilled and Frozen Foods; Transportation of Chilled and Frozen Foods in Europe; Marketing Frozen Foods in Europe. The manual sells for $2.00 a copy and is available through FOA Document Sales Service, 1201 Connecticut Ave., Washington 6, D. C.

Benjamin Bridge, Jr., head of the Bridge Chemical Co., Inc., has been named president of the **Chicago Perfumery, Soap and Extract Assn.** Elected to serve with Mr. Bridge were: vice-president, **Charles E. Arch,** Sheffield Tube Corp.; secretary, **Ellis Johnson,** Hazel-Atlas Glass Co., and treasurer, **Z. D. Sappenfield,** Allen B. Wrisley Co.

"**Color for Profit,**" a new book by **Louis Cheskin,** Technical Director, Color Research Institute of America, has been published by Liveright Publishing Corp., 386 Fourth Ave., New York 16. The book tells how to use color advantageously in commercial art work, retail merchandising, design and layout and display advertising. Also, how to color tune the store, use color in the package and how to use color lights in display. The book lists for $3.50 a copy and has 16 pages of illustration in color.

William D. Hall has joined the staff of the **Folding Paper Box Assn. of America** as director of research. In addition to experience in production and sales management for various printing and graphic arts organizations, he has had background in trade association work and has also served as a graphic arts industry representative

What's Doing

Feb. 12–14—**American Pharmaceutical Mfrs. Assn.,** Central Section, convention, Edgewater Beach Hotel, Chicago.

Feb. 13–14—**Canadian Food Processors Assn.,** convention, Ritz-Carlton, Montreal.

Feb. 15–17—**National American Wholesale Grocers Assn.,** convention, Drake, Chicago.

Feb. 16–21—**National Canners Assn., National Food Brokers Assn.,** and **Canning Machinery & Supplies Assn.,** convention and exhibit, Stevens Hotel, Chicago.

Feb. 19—**Coated & Processed Paper Assn.,** annual meeting, Hotel Commodore, New York.

Feb. 19–23—**Technical Assn. Pulp & Paper Industry,** annual meeting, Hotel Commodore, New York.

Feb. 25–Mar. 2—**National Frozen Food Industry,** convention, Hotel St. Francis and Palace Hotel, San Francisco.

Feb. 26–Mar. 1—**New York Gift Show,** Hotels Statler and New Yorker, New York.

Feb. 28–Mar. 2—**Society of the Plastics Industry,** Reinforced Plastics Div., 6th annual technical meeting, Edgewater Beach Hotel, Chicago.

Feb. 28–Mar. 3—**Federal Wholesale Druggists' Assn.,** convention, Hotel Statler, New York.

Mar. 5–6—**Canadian Society of the Plastics Industry,** annual meeting, Mount Royal Hotel, Montreal, Quebec.

Mar. 5–9—**American Society for Testing Materials,** spring meeting and committee week, Cincinnati, Ohio.

Mar. 5–9—**Druggists Supply Corp.,** convention, Hotel Statler, New York.

Mar. 8—**Drug, Chemical & Allied Trades Section,** convention, Waldorf-Astoria, New York.

Mar. 9—**Variety Merchandiser Clinic,** meeting, Hotel Statler, New York.

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"Meet America's Leading Salesman"

. . . the Package!

***Your* Package is *your* prime salesman at Point of Purchase**

Check Your Package . . .

For Quality . . .
Is it in keeping with your product?

For Design . . .
Is it up-to-date to do todays selling job?

For Style . . .
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OLD DOMINION
Box Company, Inc.

Plants located throughout the South

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See What They're Packing in

HOWARD-SEAL

Controlled Polyethylene

PLASTIC BAGS

Lettuce

—and scores of other perishable items!

Just think what it could do for YOUR product!

- **Moisture-Proof**
- **Fracture-Proof**
- **Unaffected by temperature changes**

Don't confuse Howard-Seal with any other film. Howard-Seal is controlled as to uniformity of thickness, size, and sealability.

Photo of Lettuce packaged in HOWARD-SEAL Plastic Bag

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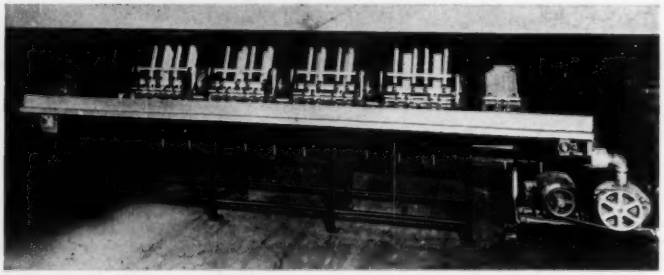
FOLDED PAPERS COLLATED *Faster* THAN EVER BEFORE



In proper sequence, this unique automatic unit collates many items of similar size into a single bundle. The bundle is jogged square and can be presented to a cellophane wrapping machine or a cartoning machine.

Speed: 6,000 collated bundles every hour. Size range: 3″ × 3″ to 7″ × 7″. Other size ranges built to specifications. Moderately priced. Request details.

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For your information

on the Simplified Practice Committee of the U. S. Bureau of Standards.

Standard Oil Co. (New Jersey) and affiliated companies have published "**Technical Publications 1948,**" as a new volume in its series of technical works written by scientific personnel of the company and affiliates. Subjects are presented under the following headings: Geology and Production; Manufacturing and Fuel Quality; Rubber and Plastics; and Analysis. Distribution of the book is made by Standard Oil and copies are not for sale. "S-Polymer Films," one of the chapters in the Rubber and Plastics section of the book, appeared in MODERN PACKAGING, Nov. 1948, p. 151.

Norman F. Greenway, vice president of **Robert Gair Co., Inc.**, has accepted the chairmanship of the Paper Carton Mfrs. Division of the 1950 Fund Appeal for the Travelers Aid Society of New York.

"**Descriptive Color Names Dictionary**" has been issued by **Container Corp. of America,** 38 South Dearborn St., Chicago 3, Ill., as a 64-page supplement to the company's "**Color Harmony Manual.**" The dictionary contains 775 names so arranged that the user can work from names to colors or from colors to names. **Helen D. Taylor** and **Lucille Knoche,** well-known colorists, collaborated with **Walter C. Granville** for six years in preparing the dictionary. All the names are the kind commonly used to describe the color of merchandise sold in the mass markets.

A feature of the annual meeting of the **Folding Paper Box Assn. of America** in Chicago, Mar. 28–29, will be the first presentation of a color motion picture sponsored by the association, entitled "**The Magic Box.**" Arrangements for the picture were made in Hollywood during November by **M. G. Fessenden,** president of the association; **Douglas T. Neale,** chairman of the public relations committee; **Magnus Gaukerud,** committee member, and **Daniel M. LeHockey,** association staff member. The picture is described as having educational and informational value, making it suitable for all types of audiences.

Inland Container Corp., Indianapolis, Ind., in marking the company's 25th anniversary as a manufacturer of corrugated shipping containers and packing materials, has issued a booklet giving a sketch of the company's history and recognition to its employees and customers who have helped build the company to its present position.

HERE'S WHAT WE MEAN BY "A CAP FOR EVERY NEED"!

Here you see the complete line of Armstrong's Artmold Plastic Caps. Sizes range from 8 mm. to 100 mm. These caps are every bit as good looking as private mold designs, yet they carry economical, standard mold price tags.

Armstrong's plastic caps meet requirements of all G.C.M.I. standard finishes for bottles, vials, and jars. They are chip and crack resistant. They have a brilliant luster and can be made in a wide range of sparkling colors.

For free samples and prices, or additional information, address Armstrong Cork Company, Glass and Closure Division, 5902 Prince Street, Lancaster, Pennsylvania.

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Artmold
PLASTIC CAPS

WEST COAST REPRESENTATIVE:
I. F. SCHNIER CO., INC.
SAN FRANCISCO 12 AND LOS ANGELES 7

Washington review

Tin outlook

Expected momentarily as this issue went to press was an order of the National Production Administration limiting the use of tin and aluminum in collapsible tubes. It was understood that no tin would be permitted on tubes for shaving creams and that the percentage of tin and aluminum in tubes for other purposes would be sharply reduced.

The action follows an NPA meeting with representatives of collapsible-tube manufacturers at which industry spokesmen reportedly made recommendations along these lines. It is hoped that by certain changes in formulas, to reduce the amounts of these two critical metals, the tube industry will be able to maintain present production levels and continue to provide sufficient collapsible tubes for all needs.

Industry spokesmen said they had experimented with many plastics as possible substitutes in making collapsible tubes. Two or three plastics appear to be satisfactory, they said—but these plastics also are in short supply.

A task group was set up to advise NPA regarding the tin content of tubes used in packaging various products. Members of the group are: M. K. Dresden, A. H. Wirz, Inc.; William Erhard, Globe Collapsible Tube Co., Charles Kleinbeck, Atlantic Mfg. Co.; Raymond R. Leonard, Sun Tube Corp.; and S. M. Rumbough, Jr., White Metal Mfg. Co.

Meanwhile the Government is reported readying a new program designed to hold back advancing tin prices and further limit non-essential use so that available supplies will be better able to cover essential needs. It is reported that the importing of tin will be taken over as a Government monopoly to avoid competitive up-bidding of prices. Producing countries will be asked to sign long-term agreements to supply tin under export contract so that speculators are shut out of the market and to deflate the price of tin, possibly to a figure under $1.00 a pound. Recently, the price has been $1.75 a pound, or higher.

New restrictions on the use of tin in this country for civilian products will, it is said, be added to the 20 per cent cut already put in effect Feb. 1. There is as yet no indication as to what extent the limitations will approach those of World War II.

Actually, the outlook for tin supplies is reported to be favorable, barring an enemy grab of major producing sources.

Production is said to be more than sufficient to meet industrial needs. Effective action by users to eliminate hoarding and non-essential use can go far to make supplies stretch for essential requirements. The Government is in a favorable position to bargain for lower, more realistic prices with producing countries who must look to the United States for their imports of critical items, including cotton and machine tools.

Steel-container pinch

Industry spokesmen have informed NPA that some steel shipping container manufacturers have already been forced to cut plant operations and some smaller plants may be forced to shut down entirely unless sufficient steel is made available. Steel shipping containers are used primarily by the petroleum, chemical and food industries.

NPA officials pointed out that persons holding defense orders were entitled to material necessary to fill the orders and NPA would aid in finding steel for such orders.

However, the NPA officials said, an end-use limitation order on steel shipping containers may be necessary to assure that defense and essential civilian needs are met. Industry members asked NPA to consider establishment of a pattern of essentiality before issuing such a limitation order.

Action on PVA

Government action, typical perhaps of the emergency relief that can be expected in averting production threats caused by shortages, has helped prevent shutdowns in the adhesives and milk carton industries. NPA channeled allotments of several tank cars of vinyl acetate monomer for production of polyvinyl alcohol used in the manufacture of textiles and water-resistant adhesives. Use of polyvinyl alcohol in the manufacture of V-board for military uses was limited to 25,000 lbs. during January, since it is deemed not essential to V-board manufacture, urea formaldehyde being accepted by the Munitions Board as a satisfactory substitute in V-board. Supplies of vinyl acetate monomer are to be increased by expanding production of a critical source material—acetylene.

Anti-hoarding list

Additional protection for the legitimate and essential user of certain scarce packaging materials is afforded by NPA Notice 1 which lists a number of critical packaging materials and reminds users that there are severe penalties for stocking the products in excess of reasonable business demands or for personal or home consumption. Accumulation of the materials for purposes of profiteering is banned. Included in the list of materials are: polyethylene; styrene and polystyrene; aluminum in crude form or semi-fabricated shapes, including extruded shapes; tin-alloys, chemicals, fabricated products such as tin pipe and sheet and tin or tin-base alloy scrap. Paper and paper board materials and products are also included in the list, and a flurry of activity in lightening warehouse stocks and canceling forward orders is reported already to have eased the paper "shortage," with prices already weakening.

Pattern set for industry liaison

Industry opinion is playing a vital part in guiding NPA activities. Procedures for continued consultation have now been formalized and are based on practices that have been followed successfully during recent months. Committees designed to represent large, medium and small business, geographical distribution and various segments and associations within industry are nominated by directors of NPA industry divisions. Terms are limited and membership rotated where possible. Individuals or groups of citizens can also seek discussions with NPA.

NPA industry divisions or any three members of a committee can call a meeting. Approval is required for meetings not held in Washington. The Government determines agendas, and chairmanship of the meeting is conducted by full-time Government officials. Committees have a purely advisory function. "Task" groups can be formed to advise on special problems. Minutes are kept for each meeting, and summaries and public announcements are made by NPA as promptly as possible.

Copper restrictions

After March 1, you cannot use copper and copper-base alloys in a wide range of applications deemed non-essential, non-functional. Barrels, boxes, cans, jars and other containers are among the products that are listed in an amendment to NPA order M-12 restricting use of copper.

The metal is not a major item in packaging generally, but cosmetic manufacturers will feel the pinch in regard to lipstick holders, compacts and similar items.

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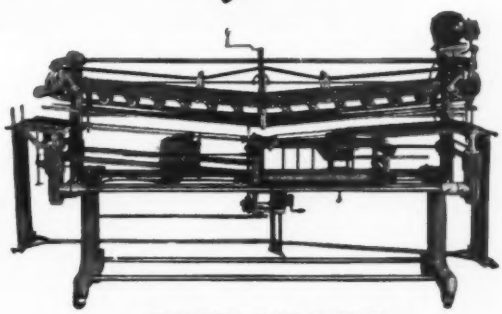
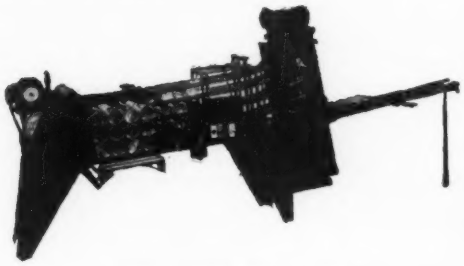


CRCO-NEW WAY LABELER



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U. S. patents digest

Edited by H. A. Levey

This digest includes each month the more important patents of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Process for the Production of Containers Filled With Liquids or Pastes, L. Rado, Whitehave, England. U.S. 2,530,400, Nov. 21. A process for the production of plastic containers for fluid substances wherein a plurality of individual containers are provided, each containing a desired amount of fluid substance, consisting of sealing one end and filling a length of thermoplastic tubing with a fluid substance.

Container, A. H. Warth (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U.S. 2,530,413, Nov. 21. An alloy composed of 93 to 100 parts of tin, 0.1 to 3.5 parts of silver and 0.03 to 3.5 parts of indium, except for incidental impurities.

Machine for Applying Pressure Sensitive Tape to Conductors, J. L. Entwistle (to James L. Entwistle Co., Pawtucket, R.I.). U.S. 2,530,655, Nov. 21. Method of applying pieces of pressure-sensitive adhesive tape from a supply roll to a longitudinally moving conductor, the steps of severing a piece of tape, carrying said piece into a position above and substantially parallel to the conductor, pressing the tape at a point between its ends to the conductor.

Apparatus for Filling Containers With Liquid, D. W. Bingham, Brighton, Victoria, Australia. U.S. 2,530,755, Nov. 21. An apparatus for filling bottles with predetermined quantities of liquid, an endless conveyor for a series of filling heads, conveyor having a trackway for guiding filling heads forward.

Bottle Cap, H. A. Schuler, Woodside, N.Y. U. S. 2,530,999, Nov. 21. A bottle cap comprising a body including a roof and a flange-like apron depending from the circumferential edge of the roof, apron having a cut-out therein extending through the lower circumferential edge upward toward roof to a distance of about one half the depth.

Container and Applicator for Small Articles, S. E. Pate (to Permo, Inc., Chicago, Ill.). U.S. 2,531,152, Nov. 21. In combination, a phonograph needle and a holder and applicator therefor comprising an elongated fibrous member, the playing end of the needle being frictionally held and supported by displacement of the fibrous material in one end thereof.

Container and Display Insert, J. D. Clark (to Morris Paper Mills, Chicago, Ill.). U.S. 2,531,255, Nov. 21. Combination of an article-holding insert fabricated from a single blank and comprising a bottom panel, a cover panel hingedly articulated to bottom panel and a plurality of wall members supporting said cover panel.

Dispensing Container, H. C. Schloer, Greene, N. Y. U.S. 2,531,300, Nov. 21. A dispensing container comprising a hollow base having an inverted cone-shaped top wall provided with a central opening and a bottom closure provided with a central opening.

Device For Applying Sheet Material to Cylindrical Articles, F. C. Worth, Brooklyn, N.Y. U.S. 2,531,314, Nov. 21. A device for fixing labels to substantially cylindrical surface of articles comprising a frame and a carriage disposed on frame, means operatively connected with carriage for horizontally reciprocating carriage and having article-supporting nest provided in carriage and a roller carried by carriage forming bottom of nest.

Tray-Type Collapsible Carton, C. H. Goodyear (to Fibreboard Products, Inc., San Francisco, Calif.). U.S. 2,531,507, Nov. 28. A carton of the collapsible type adapted to be set up from a single blank of material comprising a tray part having a bottom tray wall, a front tray wall, a rear tray wall and opposite side tray walls, a top cover wall hingedly connected to upper edge of rear tray wall.

Container Having Spring-Biased Sliding Closure, J. M. Lyon, Jr. (to William E. Wilson, Inglewood, Calif.). U.S. 2,531,737, Nov. 28. A container comprising a rectangular case open at one end, parallel ways extending along two opposite side edges of open end, a lid having a pair of laterally spaced grooves provided in the underside thereof to receive said ways, lid being slidable on ways.

Method of Filling Flexible Containers With Finely Divided Materials and Machine Therefor, D. Ray, Beverly Hills, Calif. U.S. 2,531,743, Nov. 28. In a filling machine, the combination of a filling conduit associated with a supply of finely divided material, a form block carried by the end of the filling conduit, form block being insertable into the opening of a container.

Method and Mechanism for Closing Fibre Containers With a Lined Closure, E. W. Lager, J. J. Prohaska and H. E. Haase (to Swift & Co., a corporation of Illinois). U.S. 2,531,914, Nov. 28. A method of closing a container by placing a liner over the open end and applying a cap thereto, comprising the steps of producing a tacky bead around the periphery of an open end of the container.

Ventilated Paperboard Carton, N. Carter, Desborough, near Kettering, England. U.S. 2,532,085, Nov. 28. A paperboard box which is formed from a blank composed of four lineally connected sections, with ends of the blank joined to form a continuous loop, each section including a foldable flap extension at each unattached side thereof.

Attachment of Key Opener to Can Ends or Like Container Parts, G. C. Hook, (to Continental Can Co., Inc., New York, N.Y.). U.S. 2,532,166, Nov. 28. A metallic container part, an opener and a composite structure elastically securing opener to container part.

Pull-Match Package, J. A. Buick, Norfolk, Va. U.S. 2,532,440, Dec. 5. A pull-match package comprising a flexible elongated sheet folded between its end to provide a U-shaped cover having front and back cover parts, inner surface of front and back cover parts carrying near their free ends narrow strips of igniting material.

Bottle Carrier, M. G. Hall (to Empire Box Corp., Garfield, N.J.). U.S. 2,532,446, Dec. 5. A pre-formed collapsible bottle carrier formed from paperboard or like material and comprising, when erected, a pair of similar bottom-wall panels joined along a central fold line, a pair of side walls joined along their respective lower edges along fold lines and a pair of handle sections disposed parallel to and medially between side walls.

Method and Machine for Gluing and Folding Paper Boxes, F. H. Burgess, Philadelphia, Pa. U.S. 2,532,479, Dec. 5. A machine for folding and gluing paperbox blanks, said blanks comprising bottom portions, side walls, end walls and oppositely projecting ears extending from two of said walls; machine comprising pairs of spaced glue-applying means, plungers to force a blank between glue-applying means so that glue is applied to the blank's ears, said ears being simultaneously folded angularly from the plane of the blank.

Method and Mechanism for Folding Paper Boxes, E. G. Staude (to the Sperry Corp., New York, N.Y.). U.S. 2,532,522, Dec. 5. The method of infolding a box blank having a pair of opposed side panels and at least one additional side panel along a side of the blank lying at right angles, method comprising a preparatory inward turning of opposed pair of panels into partially infolded position in which they are upwardly and inwardly inclined over body portion of blank.

Bottle Carrier, J. K. Laier, Kansas City, Mo. U.S. 2,532,725, Dec. 5. A sheet-metal bottle carrier comprising a pair of opposed, identical sections, each including a bottom wall, a side wall perpendicular to bottom wall, a top wall extending inwardly and upwardly at an angle from uppermost edge of side wall in overlying relationship to bottom wall and a partition wall extending upwardly from uppermost edge of top wall.

Machine for Filling Cans With Paste Having a Plunger With Paste Suction Relief Blades, H. W. MacKinnon (to John F. Latta, Vancouver, British Columbia, Canada). U.S. 2,532,777, Dec. 5. In a paste-filling machine having open-ended measuring pockets adapted to be filled with material and to be moved along a path with a container held in adjusted position at an open end of each pocket, a plunger adapted for reciprocatory movement to enter each of said pockets progressively and to thrust the contained material into its container.

Bag-Making Machine, H. L. Reitzes (to Globe Products Heat Seal Corp., Los Angeles, Calif.). U.S. 2,532,784, Dec. 5. An apparatus for making containers from

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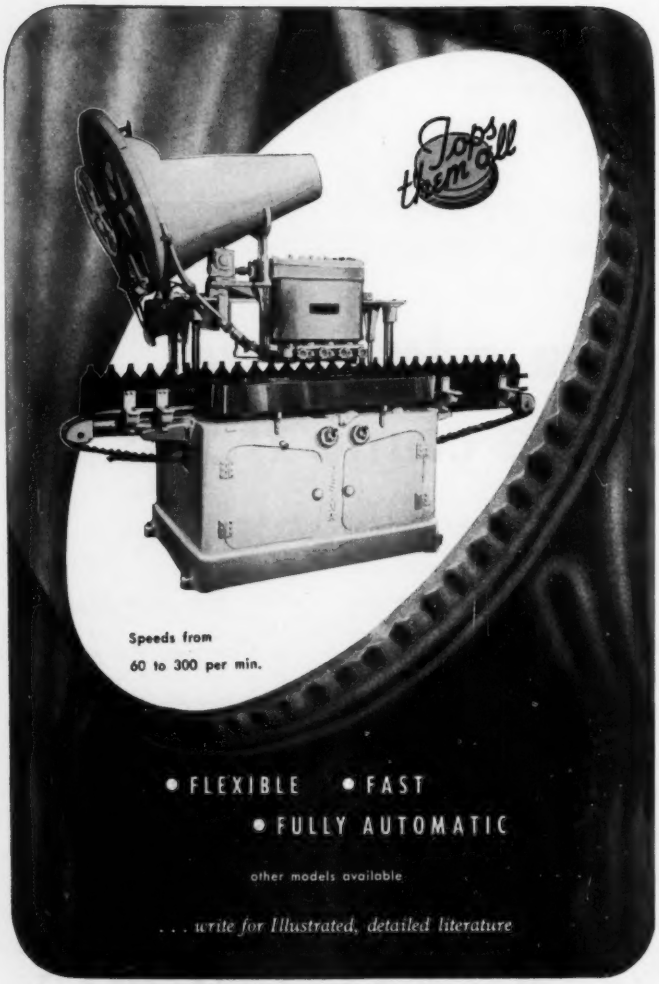
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U.S. patents digest

a flat continuous strip of material, means for forming the material into a flat tube with overlapping edges, heat-sealing means for longitudinally sealing the strip material into a flat tube, heat-sealing means including a heating roller for engagement with tube at edges.

Foldable Tray Blank and Tray, G. G. Grinnell, Quincy, Mass. U.S. 2,532,808, Dec. 5. A foldable tray blank comprising a rectangular flat sheet scored along longitudinal and transverse lines to form a bottom panel, two side panels and two end panels, a pair of corner-forming sections at each end portion of the blank respectively integral with the adjacent side and end panels.

Box and Similar Container, W. J. Cell, Forest Hills, N.Y. U.S. 2,532,833, Dec. 5. An open-top, rectangular, collapsible box comprising hingedly connected side and end walls and a bottom hinged at one side edge adjacent the lower edge of a side wall.

Collapsible Box Unit, A. Taylor, Charleston, W.Va. U.S. 2,532,863, Dec. 5. A collapsible box unit comprising, in combination, a wall structure including a pair of upright corner posts having means bridging the space between them and rigidly joining same, a plurality of panels pivotally connected along their edges to a corresponding plurality of right angularly related edge portions.

Paint-Can Attachment, E. D. Day, San Mateo, Calif. U.S. 2,532,895, Dec. 5. In a device adapted to be inserted in the mouth of a paint can having an inwardly extending lip, a wiper strip, means for attaching said wiper strip to can including a pair of helical springs formed integrally with wiper strip.

Container-Capping Structure, E. M. Enkur, L. F. Pahl, and L. L. Lauve (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U.S. 2,532,900, Dec. 5. The combination in a container-capping apparatus of a base, a container-supporting conveyor movable on base, a support above conveyor, an endless belt capping element carried by support and including horizontal run, and a second endless belt of bodily flexible material movable about and with first belt.

Carton, W. J. Tyrseck (to Robertson Paper Box Co., Inc., Montville, Conn.). U.S. 2,533,070. Dec. 5. A shockproof box formed of a single blank, comprising a plurality of aligned successive panels folded around each other in one direction only and forming an inner sleeve and an outer sleeve.

Container Closure, C. J. Yates (to Tri-State Plastic Molding Co., Henderson, Ky.). U.S. 2,533,159. Dec. 5. A container and closure assembly interlockable by relative rotation.

Rotatable Suction Container Filling Machine, H. Hannover, Hellerup, Copenhagen, Denmark. U.S. 2,533,109, Dec. 5. A rotatable suction container filling machine comprising in combination a supply

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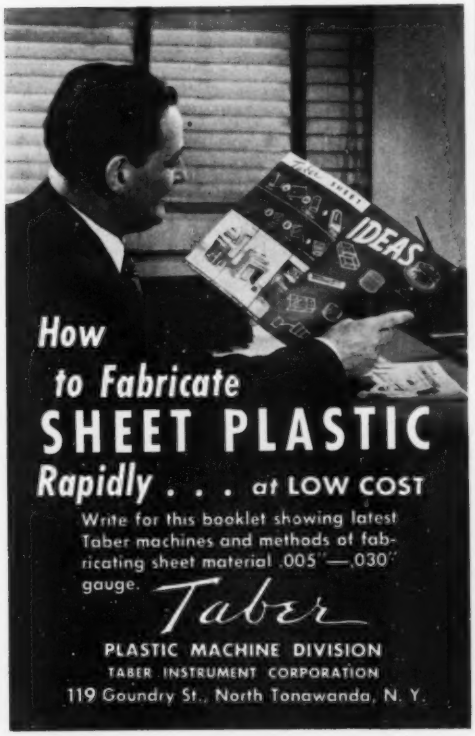

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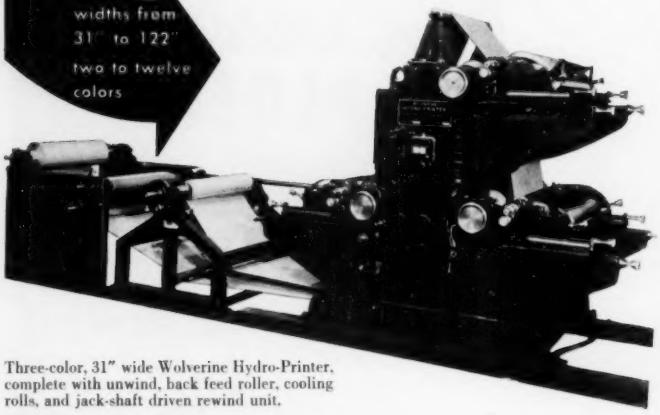

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vessel, tables for supporting containers to be filled, arranged around the supply vessel, a supply tube for said vessel and vacuum container of annular shape mounted over supply vessel.

Container for Injection Medicines, H. C. Hagedorn (to Nordisk Insulinlaboratorium, Gentofte, Denmark). U.S. 2,533,165, Dec. 5. A container for injection medicines comprising a hollow body, at least a portion of which is an integral synthetic plastic molding provided with an opening in its wall, and a perforatable diaphragm of elastically compressible material extending across opening and having its periphery embedded in the plastic container wall to form a closure.

Opening Means for Cigarette Wrappers, T. A. Will, Hollis, N.Y. U.S. 2,533,255, Dec. 12. In a package having a wrapper formed of a plurality of adjacent plies of material, means for dividing off a portion of the wrapper to be separated from the remainder for opening the package, comprising a tear strip extended along the innermost face of the inner ply of the wrapper.

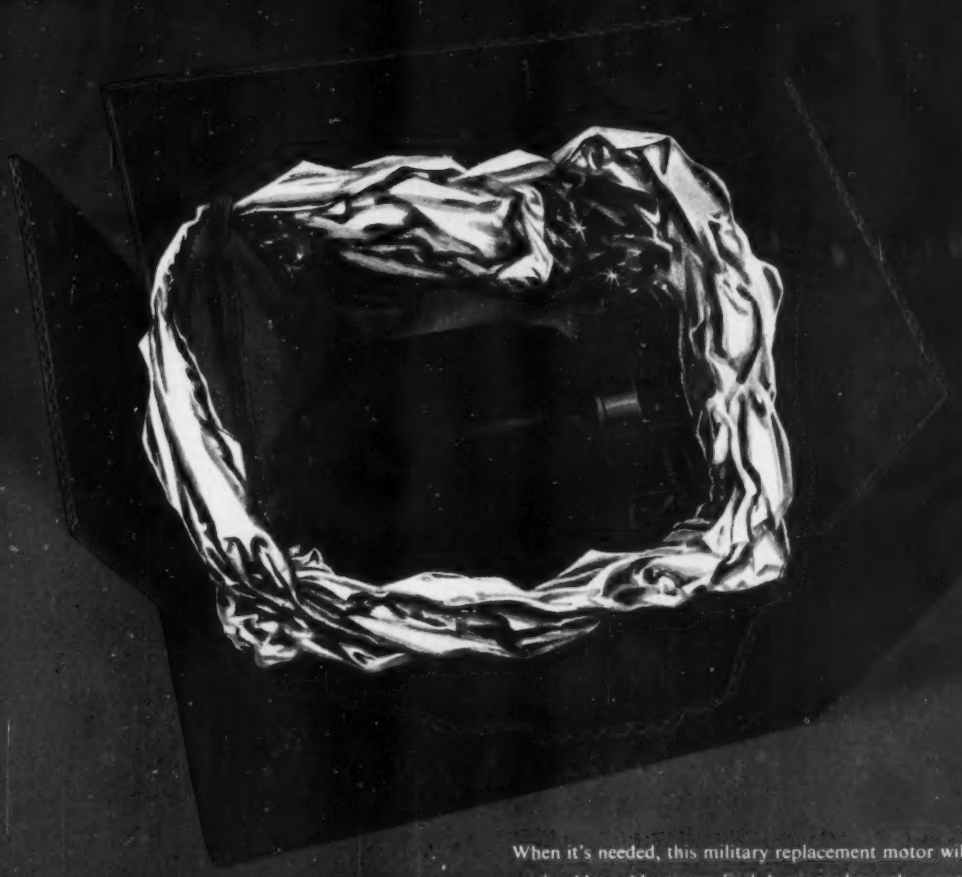
Flexible Pouring-Spout Structure for Liquid Containers, L. J. Wells, El Monte, Calif. U.S. 2,533,305, Dec. 12. In a liquid container, the combination of a container wall having an opening therein; a cup-like, countersunk insert member secured in opening and providing an exteriorly directed recess and having a flange sealed on the wall of container, insert having an opening therein to communicate with a spout.

Egg Carton, W. H. Allen and M. G. Hall (to Empire Box Corp., Garfield, N.J.). U.S. 2,533,340, Dec. 12. An egg carton formed from a single egg-carton blank embodying a pair of integrally joined and contiguous central longitudinal partition-forming sections, blank being cut, scored, glued and folded to form a flat, collapsed, but erectable carton which in its erected condition includes a front side wall, a rear side wall, end flaps, transverse partitions or egg cell dividers.

Web Former and Cutter for Satchel-Bottom Paper Bags, C. V. Clark (to The Chase Bag Co., New York, N.Y.). U.S. 2,533,433, Dec. 12. In a power-driven machine for making satchel-bottom flat bags from a web of bag material fed through said machine from a continuous source of supply located at the front of the machine to the delivery end thereof, a substantially flat apertured bed plate on the machine.

Resealable Carton Closure Having Metallic Clip-Fastening Means, G. S. Vivian (to Satona, Ltd., Leeds, England). U.S. 2,533,539, Dec. 12. Means for closing and sealing a carton of the type in which the closure is formed by pressing together oppositely disposed parallel side walls of the carton adjacent the top to form an upstanding multilayer flap and snapping over the flap a pressure closure.

Package and Method of Producing Same, O. M. Byerly (to Walter E. Hausheer,



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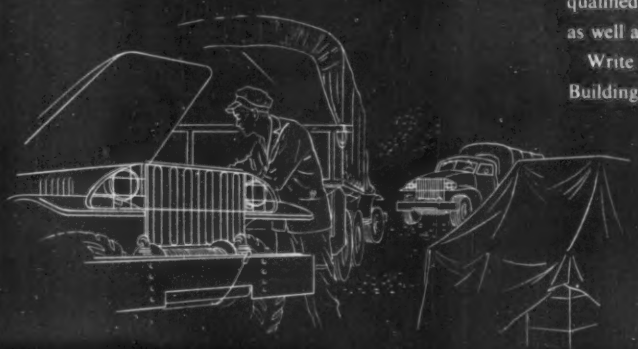

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U.S. patents digest

Evanston, Ill.). U.S. 2,533,554, Dec. 12. A water- and air-impervious container having a commodity sealed therein, said container including a wide sheet and a narrow sheet of thin and impervious metal of foil type, wide sheet being of channel shape having marginal sealing portions along the channel side edges.

Container-Closing Apparatus, S. W. Dennis and E. Henschen (to Crown Cork & Seal Co., Inc., Baltimore, Md.). U.S. 2,533,437, Dec. 12. An apparatus for applying closures of the type having flanges vertically spaced apart when arranged in a stack, said apparatus including a head comprising a vertical magazine for receiving a stack of closures and a vertical capping throat horizontally spaced from the magazine, guide means extending between magazine and throat.

Card Box, P. S. Godfrey (to Bernars E. Sheras, Chicago, Ill.). U.S. 2,533,577, Dec. 12. In a box adapted to receive a pack of cards, a flat bottom by which pack is supported with the cards in superposed relation, side and end walls defining a relatively shallow card-receiving compartment.

Method and Apparatus for Filling Containers, R. W. Vergobbi (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U.S. 2,533,641, Dec. 12. In a vacuum-operated filling machine for filling containers with flowable solid material, a duplex filling head adapted for airtight connection with the open upper-end portions of two containers supported in filling position, filling head being provided with a material inlet communicating with the interior of one of containers.

Lined-Container Forming Machine, J. G. Vergobbi (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U.S. 2,533,642, Dec. 12. In a container-forming machine, in combination, a forming block about which a blank of lining material and an outer carton blank may be successively wrapped to form a lined container.

Liquid Applicator for Gluing Machine, A. D. Zanetti, San Francisco, Calif. U.S. 2,533,704, Dec. 12. In a liquid applicator a tubular body having a liquid inlet opening in its side, a tubular reciprocating piston mounted in the body and having a tubular extension at one end.

Roll-Crimping Machine, H. C. Bryans (to Canadian International Paper Co., Montreal, Quebec, Canada). U.S. 2,533,993, Dec. 12. A machine for crimping the projecting ends of wrapping material over the ends of a roll of paper covered thereby comprising a pair of carrier rolls for supporting a wrapped roll of paper.

Method of Forming One-Piece Paper Containers, J. Norden, Woodmere, N.Y. U.S. 2,534,052, Dec. 12. The method of forming a container from a rectangular sheet of fibrous material which consists of first folding the sheet upon itself forwardly and reversely along one set of spaced parallel lines, which forms side walls having Z-pleats with spirally wound flaps and multiple-bottom panels.

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Cera-fused

ceramic color labels for glass packages

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With the Cera-fuse Method,* decorating of bottles, jars, ampules and other glass packages costs less, looks better, is permanent.

The Cera-fuse Method gives you skillful color matching, sharp printing . . . whether you order 22 carat gold or choose from any of a wide range of colors. Expert firing assures the permanence of all decorating.

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permanent decorating of glass containers of every kind

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Substitutions

(*Article continued from page 83*) entirely, as foil was permitted only for military packaging and the most essential civilian uses. The same materials doubled for practically all the plastic films and for Pliofilm, all of which were on high priority. Such items as brewer's yeast shed its foil and went into a wrapper of resin-coated paper impregnated with titanium—a paper which could be heat-sealed and handled on the same wrapping machines as foil after certain adjustments were made.

All the foil wrappings on chocolate and candy bars were replaced with glassines, imitation glassines and other papers—some of them unfortunately offering very little protection and producing untidy packages because of poor sealing properties.

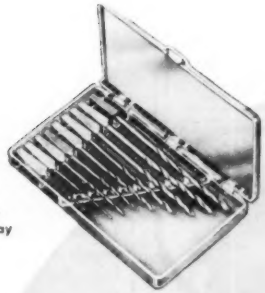
Cellophane was completely restricted to essential protective purposes. Those users who had to change their packaging had to use glassine or opaque papers and tell their visibility story as best they could by picturing contents on the printed surfaces. Many ingenious devices were worked out, especially for cartons which formerly had transparent windows. Printed photographic illustration often gave the actual appearance of looking into the package through a window—a technique sometimes used today in preference to an actual window.

Changing product form

Another interesting phase of substitute packaging was that of revamping the form of a product. Dehydrated soups were an excellent example. By reducing the soups to a dehydrated form, it was possible to package them in pouches of laminated glassine and cellophane, and thereby saving all the metal, shipping weight and space required to ship canned soups. These packages were successfully used for several years. The same soups have been continued in more-protective flexible packages of aluminum foil, acetate and vinyl structure, but could be switched back into their glassine-cellophane battle dress if necessary.

Increased production of frozen foods is another way to preserve food in another form and use packaging materials other than metal.

A problem of conversion that worried packagers no end at the begin-

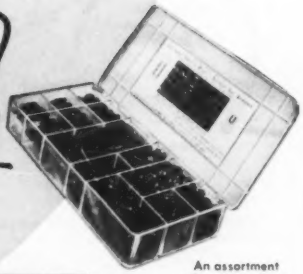


Bits sell better packaged this way

Handy reel repair box of parts

HAVE YOU A Package Problem?

For packaging an assortment of bead chains



An assortment of small products packaged for convenient use

First aid box for the home

Humidor box for cheese or other foods

Here are six packages selected from a large number showing how manufacturers of different products have successfully solved their packaging problems with attractive, durable Vlchek plastic boxes.

By a unique method, we can provide 548 compartment arrangements from 8 standard sizes. Thus, you can have unusual flexibility in packages to fit your products, yet—with stock-box economy.

In addition, specials—involving variations in color, shape, interior design, hinge design, etc.—can be engineered to meet specific needs.

Whatever your packaging requirements, our experienced designers can be of help to you. Your inquiry will receive our prompt attention.

PLASTICS DIVISION
The VLCHEK TOOL COMPANY
3001 EAST 87th STREET • CLEVELAND 4, OHIO

AN EFFECTIVE AND ACCURATE GUMTAPE PRINTER!

"THE TAPE-PRINTER"

PRINTS GUMTAPE AS YOU OPERATE YOUR MACHINE!

- Mechanically simple unit
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- Over a thousand impressions without re-inking!

This PRINTING UNIT will fit any standard 3" Automatic Tape Machine.

Printing Unit $26.75 Complete F.O.B. N.Y.C.

A large printing cylinder permits over 12" of copy; can also be made to accomodate changeable type for a quick change of copy!

Clear and clean printing with instant drying ink—won't smudge!

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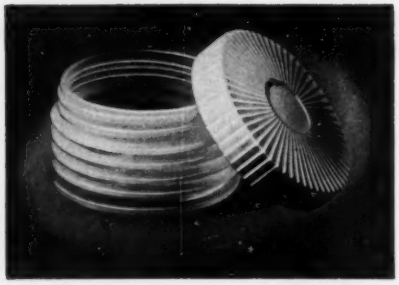
POLYETHYLENE JARS

1½ oz. and 2 oz. Capacity. Modern, lightweight, unbreakable

Attractive New Sell-on-Sight Design



Natural polyethylene always in stock; colors available on order. Ideal sales maker for creams, cosmetics, ointments, salves, fitted traveling cases, etc.

Appealing assortment of urea and brass closures available.

1 ½ oz. capacity — 58-400 screw cap finish

2 oz. capacity — 63-400 screw cap finish

SEND FOR SAMPLES AND PRICES! • Inquiries Invited

J. RABINOWITZ & SONS, INC.
2 Hanson Place — Brooklyn 17, N. Y.

ning of the last war was to retain recognition value with a changed package. Experience has shown that in the hands of the competent designer, the owner of zealously guarded trademarks has little to fear.

Recognition of a famous design and color scheme can be as readily established on a glass jar label as a wrap-around can label. Labels on fibre containers do not require very different design treatment from those on the cans they replaced. Even when the form of the package is completely changed, as was the case of the flexible catch-book package for Bayer Aspirin, replacing the familiar tin of 12s, the trademark identity was preserved by careful handling of the design for the required space on the wartime package.

Metallic appearance of a replaced foil package or label can be maintained by printing the background with a metallic or imitation metallic ink, simulating the foil surface. Very good results are obtained with such inks on pyroxylin-coated stocks.

Consumers too are sympathetic in an emergency, realizing the need for the wartime expedients if they are pointed out in advertising. During the last war they were glad to get their favorite brands in any kind of container. If, because of product shortages, they were forced to take another brand temporarily, most of them returned to the old favorites when the product was plentiful again.

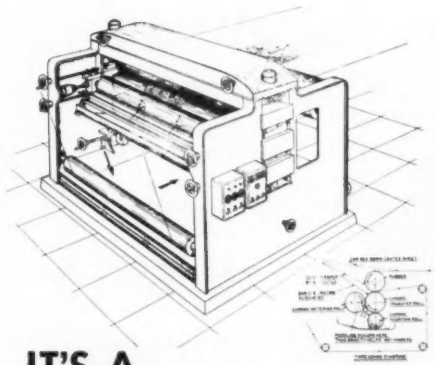
Recommendations

Our recommendation to every packager, whether he believes he is threatened with package replacements, or not is to:

1. Review the characteristics of his product to determine what substitute packaging materials he can use.
2. Make a study of every possible alternate material that would carry his product.

For example, if his product is coffee, he knows that he has a choice of glass, a carton with liner or a paper bag. If he puts aspirin in metal boxes, he knows he may have to use a paper box or some kind of paper unit package. If he makes a candy bar ordinarily wrapped in foil, he knows he has the possibility of lacquered glassine or other suitable papers. If he has been using cellophane for wrapping infant's garments, he

IT'S NEW



IT'S A *CONTRACOATER*

Contracoater applications begin where reverse roll coating leaves off. Unique and outstanding features include:

1. EXACT WIDTH OF COATING can be deposited on any width sheet. Controlled adjustable dams utilizing gravity return; creeping of coating is eliminated.
2. COMPANION EDGE DOCTORS predetermine the width of coating from fountain roll to transfer and metering roll. These adjustable doctors remove coating material from unused portions of transfer roll.
3. CLEANING DOCTORS remove excess coating material from metering roll.
4. ADJUSTABLE PRE-LOADED BEARINGS eliminate bearing shake and vibration.
5. CHROME PLATED ROLLS ground extremely close.
6. PERFECT ALIGNMENT, accurate bearings and ways, ruggedness and rigidity essential to controlled coating.
7. ROLLS POSITION QUICKLY to predetermined mechanical stops by pneumatic loading cylinders. Should rolls be separated for any reason they automatically return to original setting.
8. MICROMETER SETTINGS actuated by remote control. Designed for .001" difference by one dial turn.
9. STAINLESS STEEL PAN cradle-mounted with adjustable vertical positioning. Can be lowered instantly for removal. Can be jacketed for heating.
10. ADJUSTABLE POSITION WEB GUIDE ROLL.
11. ELECTRIC DRIVE allows any desired speed differential between rolls.
12. CONTROLLED ROLL PRESSURES VISUALLY RECORDED.
13. OPEN FRAME for visibility and easy access.

Speeds up to 1000 f.p.m. Sizes to all requirements.

Contact Dilts for additional particulars.

DILTS MACHINE WORKS

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Division of The Black-Clawson Company, Hamilton, Ohio

Hayssen holds down your wrapping costs

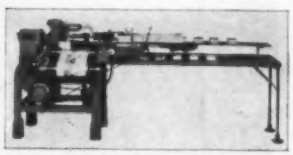
Steady, dependable, automatic wrapping of packages is a job Hayssen Wrapping Machines have been doing successfully for more than 40 years. Low in initial cost, sturdily built, completely automatic, economical to operate, Hayssens keep the unit-cost of wrapping at a low level.

Six-sided, printed designs are accurately registered by the Hayssen Electric Eye. Easy adjustability to wrap many sizes on one machine reduces idle machine hours. Thermostatically controlled electric sealing ensures well-sealed packages that stay trim in appearance. Practically any type of wrapping material can be used. For complete information please contact the home office.

HAYSSEN MFG. CO. · SHEBOYGAN, WIS.

Hayssen ELECTRIC EYE WRAPPING MACHINES

IT PAYS TO WRAP THE HAYSSEN WAY



Schaefer

LABELERS

APPLY GLUE TO LABELS

FOR

BOXES - BOTTLES - CANS

PARCEL POST PACKAGES

SAVE 35% LABOR. Speedy machine-gluing instead of slow brush-daubing. Round, square and die-cut labels glued. No adjustment except for glue coating. Ideal for short runs and production.

NEAT RESULTS. Printing stays clean. No glue ooze at edges of labels. No lumps, blisters or wrinkles. Easy to operate.

PRACTICAL CONSTRUCTION. Bronze tank and bearings. Calibrated dial glue control. Hand & motor driven. Use vegetable or resin glue. 7", 11", 16", 22", 28", 34", 42" wide.

FREE TRIAL

SCHAEFER 7" LABELER Disassembled for Cleaning

Schaefer
MACHINE CO.
55 CARBON ST.
BRIDGEPORT, CT.

knows he may have to give up his transparent wrapping for some kind of opaque paper which can be suitably printed.

3. Be ready to convert speedily when it becomes necessary, rather than wait for a possible priority, a relaxing of restrictions or some wonder material from a laboratory. More bottlenecks in distribution were caused by such waiting on packaging materials in the last war than by actual shortages of consumer goods themselves, according to some authorities.

Among the best sources for tracing the possibilities for substitute packaging materials are Vols. XV, XVI and XVII of MODERN PACKAGING magazine (1942, 1943, 1944) and the *Modern Packaging Encyclopedia* for 1943 and 1944 when we were at the peak of the materials struggle before. In these publications you will find reported as they developed all of the major conversions in hundreds of lines of consumer products. From them, you can plan your first, second, third and sometimes even a fourth line of defense.

You may not have to resort to drastic measures. We sincerely hope that it will not be necessary. But we do believe that the present emergency should be faced with an open and ready mind. Once again, it's later than you think.

Super premium

(*Article continued from page 95*) period, when the customer is anticipating and getting something extra from the company, is also extended.

In regard to continuity, there is, moreover, an additional bright spot for the premium giver, since colorful aluminum bowls and other variations of the container are being made available to give sales a continued boost or to enable the premium giver to break in on a market that may have reached the near-saturation point with tumblers.

In the home, the tumblers measure up handsomely to customer expectations and prove useful, durable, nonchip, color-fast and safe, it is said. Mothers report that children take delight in drinking their milk from bright-colored tumblers. Also, there is no breakage when a tumbler is dropped accidentally, washed in very hot water or otherwise subjected to household abuse. Cold drinks take

AVAILABLE FREE

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Merely by asking for it, you can have a comprehensive index covering all articles and features which appeared in Volume 23 (September 1949 to August 1950) of Modern Packaging. Use of this index will speed and simplify the job of locating material for reference. The quantity of indexes is limited, and they will be distributed *free* as long as the supply lasts.

A few indexes for Volumes 16, 17, 18, 19, 21 and 22 are also available for distribution.

Address your requests to

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MODERN PACKAGING
122 East 42nd Street,
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At Last! YOU CAN

AUTOMATICALLY WRAP ALL THESE AT

Tremendous Savings WITH—

"Perfect Packaging"

FASTER
MORE ECONOMICAL
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THE NEW

Wrap-King

Multi-form Wrapping *Machine*

Write for Descriptive Material

Write For Descriptive Material

WRAP-KING CORPORATION
SOLE SELLING AGENTS • SALES AND ENGINEERING —
961 UNION STREET
WEST SPRINGFIELD, MASSACHUSETTS

Manufactured By
WRAPPING MACHINE
SERVICE AND TOOL COMPANY

Mr. Executive

WHICH IS YOUR PACKAGING PROBLEM...

...MANPOWER?

...SPACE?

We have every facility to do your packaging more efficiently, including distribution direct to your customers.

...EQUIPMENT?

...COMPLETE PLANT?

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Don't Get "STUCK" With A Poor Product!

CORN BELT ADHESIVES ARE ENGINEERED

Now you can buy the PERFECT glue . . . engineered to meet *your* specific needs!

Our experienced Chemical Engineers study your operations and analyze your requirements. Then they prescribe the EXACT adhesive to do the job, and test it on your equipment and materials.

Corn Belt's "Engineered Adhesives" save thousands of dollars for hundreds of satisfied customers. May we prove that this extra service means extra profits for YOU?

Write *today* for free booklet.

We specialize in ALL industrial glues:

- Phenolic Resins
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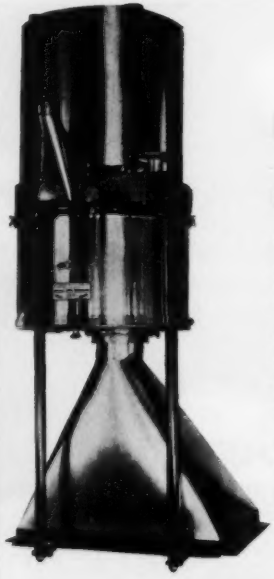
CORN BELT ADHESIVES
COUNCIL BLUFFS, IOWA



Controlled

PACKAGE FILL MILLGRAMS

GRAMS **OUNCES**

With this Model A PAK KING filler you meter the above volumes accurately and at high speed. Spices, coffees, teas, grated cheese, cocoas, drugs, powders, insecticides and chemicals. In semi or full automatic dust free designs up to 120 per minute or more. Loose, settling or ram pressure fill. Tandem fillers for high speed or extra settling features as required for powdered sugar cartons.

WEIGH RIGHT Packaging Machinery

Ask for Catalog No. 48 or Bulletin No. 481 and 482.

WEIGH RIGHT AUTOMATIC SCALE COMPANY
JOLIET • ILLINOIS • U. S. A.

on a frostier look and a more refreshing taste, it is said, when served in the tumblers.

Among the factors given above, durability should probably be rated high in appeal to the consumer. This is because many materials in the postwar period have been lacking in useful life. Meanwhile, the cost of replacing broken items has been rising.

The tumbler premium program works like this: Three weeks before it swings into full operation, a dairy's routemen are supplied with a sample set of aluminum tumblers in the eight colors. Working in advance with these demonstration sets and with illustrated order blanks, the routemen sign up the housewives and store accounts for a full set of tumblers filled with cottage cheese, to be delivered one tumbler a week.

In addition to the demonstration sets and point-of-sale material, each routeman gets a personal letter telling him about the product and how it will increase his earnings. Advertising mats are furnished by the tumbler manufacturer.

The tumblers are packed in reusable cartons that hold 36 pieces. Filling and capping pose no problems for the dairies. The aluminum-foil cap can be applied by a hand-capping device at rates ranging from 1,500 to 2,500 closures an hour. The other type of closure offered, the polyethylene water-tight lid, is said to have proved the more popular of the two, since it converts the tumbler into a refrigerator container and also serves double purpose as a coaster.

The dairymen's enthusiasm, meanwhile, is spreading to other fields and manufacturers of the tumblers report their schedules are being filled for months to come. Packagers of peanut butter and preserves have adopted the bright-hued aluminum containers. Candy companies are experimenting with the package and cosmetics and soap companies are reported to have it under consideration.

CREDITS: *"Sunburst" tumblers and bowls made by Norben, Inc., Indianapolis, Ind., using aluminum supplied by Reynolds Metals Co., Richmond, Va. Polyethylene closures, Columbus Molded Plastics, Columbus, Ind. Aluminum-foil closures, Aluminum Seal Co., division of Aluminum Co. of America, Richmond, Ind. Labels, Vickery Tape & Machine Co., Peru, Ind. Printed material, Craftsmen Press, Indianapolis, Ind.*

Ever say to yourself...

"We've got to find a BETTER PACKAGE for our product!"

A few of the nationally famous companies who use United Board & Carton services

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Ansco
General Foods Corporation
Lempco Automotive Inc.
Midwest Industries
Frank Ryser Company
The Seven-Up Company
Sunshine Biscuits, Inc.
Swift & Company
James Vernor Company, Inc.
Will & Baumer Candle Co., Inc.

TRY THIS: Let United Board & Carton packaging specialists go to work on your problem. Creating BETTER IDEAS for BETTER PACKAGING is part of their daily job. Whether the need is for faster packing . . . greater product protection . . . increased eye appeal and display value . . . or more definite product identification . . . United Board & Carton specialists have worthwhile ideas to offer.

And to give complete control of the entire process of planning and building an effective carton, United Board & Carton maintains both paperboard mills and box factories. You get exactly what you need from the quality of the raw pulp at the mill to the printing of the final color. Write or wire today for full details.

UNITED BOARD & CARTON CORPORATION

156 SOLAR ST., SYRACUSE, N. Y.

Board Mills: LOCKPORT, THOMSON, N. Y., URBANA, O.; *Carton Plants:* SYRACUSE, VICTORY MILLS, COHOES, BROOKLYN, N. Y., SPRINGFIELD, O.

Over 100 Styles to Choose from

MOLDED PLASTIC BOXES

No Mold Costs to Pay!

Tell us your requirements—item to be packaged, size needed, hinged or unhinged, transparent or opaque—we will furnish the box.

Our affiliation with 20 molders makes us *headquarters* for packaging in molded boxes. Minimum orders 1000 boxes of a size.

If your order is for a sufficient quantity, we'll design a special box for your product and absorb the mold cost.

IRA HARMON CO.

41 East 42nd Street, New York 17, N. Y.

TRY Kalamazoo Air Conditioned Labels

Our paper storage — our ink storage — our press rooms . . . all *completely* air conditioned . . . a quality and economy edge that's hard to beat.

Try us for labels you will be *proud* to use at prices you'll be *happy* to pay.

We can meet practically any type of paper label requirement — in any desired quantity. *We turn out four million labels a day.*

. . . *for*

EXTRA Sales Punch

EXTRA Ease of Application

EXTRA Price Savings

Free **BOOKLET TELLS ALL**

Send for our 16-page illustrated book on label production in an air conditioned plant . . . and why our matchless facilities mean better labels for you at fewer costs. No obligation, of course!

KALAMAZOO LABEL COMPANY, Kalamazoo, Michigan

Exclusive Label Manufacturers Since 1906

Lipton Tea

(*Article continued from page 92*)

ried on in the mammoth Hoboken plant, where a large number of tea-bag-making machines run on a multi-shift basis. Blended tea pours through a split hopper into a duplex machine, which is adjustable to accommodate the density of the tea being volumetrically filled into a filling shoe that is carefully synchronized with the machine's cycle.

The shoe drops measured quantities of tea into the tea bag, which has been folded and heat sealed on two sides. The envelope is pulled farther down in the machine and receives a top seal. The bottom seal of the following packet is formed at the same time. The filled bag is then sheared from the web and is transferred onto grippers that rotate the bag for attachment of thread and tag with a wire staple. The loose tag-end of the thread is caught lightly in the staple. Thus the tag is held neatly against the tea bag and there is no tangling of strings and bags in the consumer package—a point which Lipton's considers important to acceptance.

Finally the tea bag is extracted from the grippers and is dropped into a chute for hand-packing in cartons. A forthcoming improvement in the cartoning operation will employ a machine to take cartons in the flat, form them on a mandrel, seal the bottoms and apply a code to identify plant, machine, day, month and year.

Other Lipton products

Lipton also deserves recognition as a package leader because of its success in manufacturing and marketing dehydrated soup mixes and Frostee Dessert Mix. It is safe to say that no other packager has done more to popularize this type of aluminum-foil-packaged product. Today, Lipton claims its sales of soup mixes surpass the combined total of all competitors.

The company's success with its mixes has been phenomenally fast. Lipton entered the soup business by purchasing Continental Foods in 1939. The line of mixes now includes tomato vegetable soup, noodle soup and Frostee dessert in two flavors, vanilla and chocolate. In addition to national distribution, Lipton soups have a large sale in 33 or more foreign markets. In a 1950 survey of consumer preferences in selected domes-

Consumers Say...

UNIT
SERVICE PACKETS
ARE SO HANDY!

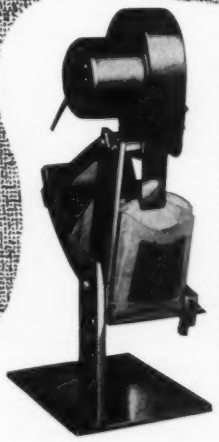
Ideal Sales Builders for Powdered Products

Their popularity keeps growing... because Unit Service Packets are the perfect package for any granular or powdered product that can be used in individual services. They insure cleanliness, measured portions and simplified dispensing...at a *tiny* cost per unit.

Send now for samples and details

Fully Sealed, Shaker and Sifter Models

UNIT Packet COMPANY
88 GERRISH AVE. CHELSEA, MASSACHUSETTS



FASTER PACKAGING
with this Bagger

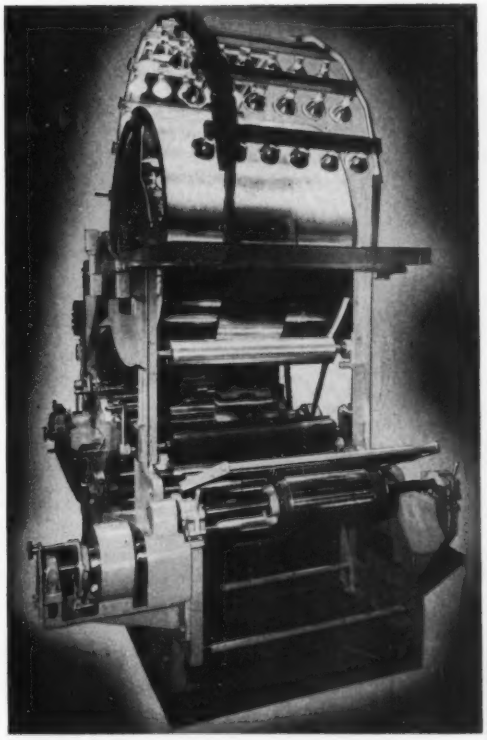
It's easy to bag products with this smooth operating machine. Simple adjustments for height... tilts forward or backward to give the most comfortable operating position. Stainless steel trough holds 200 bags... adjustable to bag sizes. Blower with air filter opens bags and keeps them free from foreign matter. Reasonably priced.. get the facts.

Send for Bulletin No. 2-29

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

New Foil Converter



New INTA-ROTO drum-type coloring and laminating machine designed especially for very thin gauge foils.

INGENUITY FOR SALE: In addition to manufacture of glue mounting, coloring, coating and laminating machines, rotogravure base cylinders, and laboratory equipment of testing gravure inks, lacquers and laminants, we design and build machines and adapters for your special job or problem. Many years of engineering and operating experience in foil and film conversion.

Write for more information.

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MACHINE CO., INC.
Byrd Airport
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ROTO
has a brand new
Polyethylene
BAG MAKER!

Engineered to meet your problems with today's material and production needs. Developed in cooperation with DuPont engineering and research.

FAST! More bags per minute than ever before!
SMOOTH! Exclusive Roto "Smooth-Seal" design seals without a pucker!
VERSATILE! Makes bags from either tubing or sheeting.
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* Write for brochure describing MOSSTYPE RUBBER PLATE PRODUCTION SERVICE . . . and FREE "GEAR and CYLINDER SELECTOR CHART"

tic markets, Lipton soups held eight first places in 11 markets reported.

Frostee, introduced nationally in 1950, was an instant success.

The Lipton soup package is a colorful foil envelope that contains 2 oz. of soup mix. The laminated, heat-sealed foil envelope, which is also used for Frostee, has excellent properties for protecting dehydrated products from moisture, heat, light and chemical action.

Advertising and promotion

Lipton promotion has inherited a rich tradition from the colorful activities of Sir Thomas. Many of his policies, with only slight modifications, are still in effect. Against much larger competitors, the firm remains the leader of its industry in advertising as well as in sales—and the connection between the two is obvious. Its budget for tea promotion is the largest, though the amount spent is far from being Lipton's only yardstick.

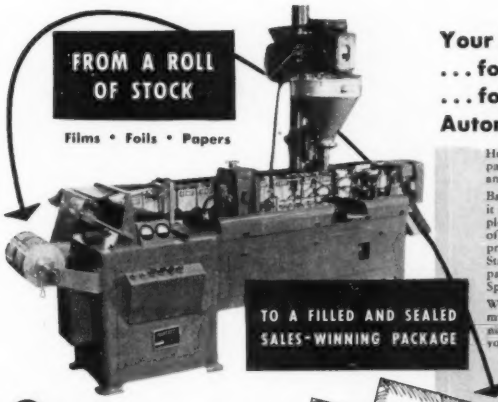
Sir Thomas believed that his firm's main job was to sell high quality tea, at the same time reducing costs and passing on to the consumer every possible benefit. That was the guiding rule in all his endeavors. Thus tea bags and loose-packed tea were never separated in advertising promotion. It was all good tea, and consumers were free to choose tea bags or loose-packed tea, whichever suited them best. This policy is still followed. But the trend to tea bags is unmistakable. The company doesn't quote any figures about its recent obvious sales increases, but some clue may be found in the June, 1950, issue of the company's house organ, *The Lipton Link*, which, in summarizing growth of the business over the previous five years, points out that "we print as many tags (for tea bags) today in a 40-day period as we did then in a year."

The spearhead of Lipton's present sales attack is its emphasis on "brisk" tea and the stimulation it provides. Only the simplest and most basic advertising themes have been successful in promoting tea sales. Flavor itself is an elusive quality, hard to sell. Nor is quality as important as it once was in advertising, for only tea imports of very high quality are permitted by the U. S. Tea Commissioner.

In former years, Lipton shifted his theme for every occasion. His first and most important slogan was "Direct from the tea gardens to the teapot." Later, it was reference to awards won

FROM A ROLL OF STOCK

Films • Foils • Papers



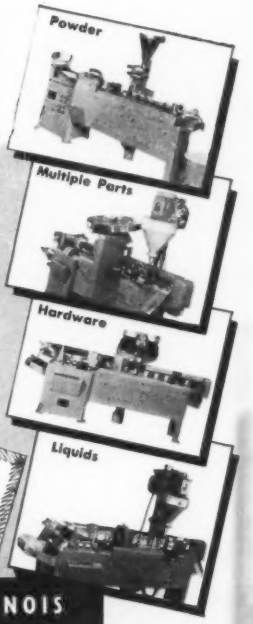
TO A FILLED AND SEALED SALES-WINNING PACKAGE

Your Product Packaged
. . . for the government
. . . for commercial use
Automatically at Low Cost

Here is the cost saving, streamlined way to package your product for maximum economy and plus sales!

Base machine makes a pouch style bag, opens it for filling, seals it, and discharges a completed package. Design allows for selection of the best filling equipment available for your product. Special feeders for unusual items. Standard unit makes bags from heat sealing papers, foils, cellophane, laminations, etc. Special model available for polyethylene.

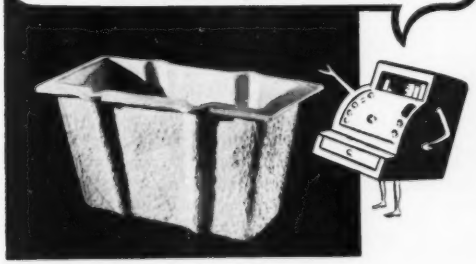
Whether your product is liquid, powder, solid, multiple items, or requires packaging under nitrogen gas, the Bartelt Machine will handle your needs. Write for details today.



1. Makes the bag from a roll of paper, film, or foil.
2. Fills the bag by count, by volume, by auger, or by special feeders.
3. Finishes up to 36,000 packages per eight hour shift.

BARTELT ENGINEERING COMPANY • ROCKFORD, ILLINOIS

check the Advantages of Modern Molded Paper Containers by *Keiding*



- ✓ The economical substitute for metal, glass, fibre or plastic containers.
- ✓ Salesmaking packaging for candies, fruits, vegetables, soaps, bakery, many other products.
- ✓ Attractive designs, lightweight, sturdy, INEXPENSIVE.
- ✓ Available in wide variety of shapes, sizes, or custom designed to your needs.
- ✓ Standard Color, White • Colors also available.
- ✓ Offer valuable re-use advantages in the home — for flowers, bulbs, other uses.

Write for samples and suggestions. Tell us your needs. We will be glad to submit ideas and estimates.

Keiding PAPER PRODUCTS COMPANY
3048 N. Thirty-Fourth St.
Milwaukee 10, Wisconsin

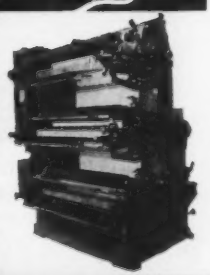
LARGEST MANUFACTURERS OF MOLDED PAPER CONTAINERS

SAVE 50% PRODUCTION COST

ANILOX PRESSES 2, 3, 4 COLOR

MANHASSET Does the Job Right!

MEETS ALL REQUIREMENTS
GIVES UTMOST PRODUCTION
HANDLES VARIETY OF STOCK
SKILLFULLY DESIGNED
CARRIES THE LOAD
MANY SATISFIED USERS



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MANHASSET MACHINE CO.
MINEOLA, N. Y. • Garden City 7-7560

Spiral Wound **PAPER TUBES and CONTAINERS**

DIAMOND TUBES and Containers—the efficient and economical answer to so many production problems.

DIAMOND TUBES have the PRECISION to satisfy most exacting requirements; PLUS the experience and capacity to interpret your needs speedily and in quantity.

DIAMOND TUBES now serve the Electrical, Radio, Toy, Cosmetic, Medical fields and many, many others. It's entirely possible that a use can be discovered in your product.

DIAMOND TUBES can cut costs and time. Our Engineering Staff is always pleased with a new problem. Why not allow us to make a suggestion for your business?

DIAMOND STRAW & MACHINE CO.
32-36 West 18th Street New York 11, N. Y.

Durethene Chicago

POLYETHYLENE FILM

And "SNAP IT SHUT" bag closure made a sales winning combination for Grennan Cake Division of Purity Bakeries and can do the same for you.

bag and closure by Plastic Packaging, Chicago

Product by Grennan Cake Division of Purity Bakeries

Increased shelf life plus sealed kitchen freshness are insured with the polyethylene package but best of all the housewife can use it over and over again as a food saver.

DURETHENE *Corporation*

1859 South 55th Avenue
Chicago 50, Illinois

POLYETHYLENE AND VINYL PLASTIC FILM IN SHEET OR TUBULAR FORM FOR THE PACKAGING, LINER AND NEEDLE INDUSTRIES
SEE OUR BOOTH NO. 765 AT 20th NATIONAL PACKAGING EXPOSITION

at the great world's expositions and appointment as tea merchant to the royalty of Europe.

In 1920, competition forced Lipton to change from "name" selling to "price" selling. He brought out new label colors and lowered price. Then he hit on the shrewd theme that his tea made 300 to 350 cups per pound, whereas "cheap" teas produced only 100 cups.

In passing, special mention should be made of the expert way in which Lipton used color in creating a tie-up between advertising and package identification. Lipton never produced a drab package. His gold label, yellow label, red label and green label packages were always designed to give consumers the impression that his tea had something special.

The tea business, despite the popularity of iced tea, is subject to highly seasonal fluctuations. Lipton, one of the few tea companies to use national advertising consistently, recognizes the demands this places on ingenuity to maintain sales continuity. Accordingly, contests and premiums have been used effectively in national magazines and in newspaper campaigns to keep sales moving all year.

The Godfrey influence

The star of Lipton's current promotion is Arthur Godfrey—the brightest new star of radio and television today. Lipton and Godfrey teamed up in July, 1947, when his Talent Scouts radio show began plugging Lipton tea and noodle soup. In 1948, Talent Scouts made its debut on television, becoming one of the first programs to be beamed to the home via radio and television simultaneously.

Ratings show that Godfrey has one of the greatest combined radio and television audiences in the New York area. The combined effect of Lipton's advertising and Godfrey's salesmanship is reflected in the king-sized strides Lipton sales have made during the last three years, as well as by facts and figures gathered by various research organizations. Needless to say, these figures are closely guarded secrets, but they leave company officials with no doubt that Godfrey pays off.

The Godfrey commercial is a miracle of reverse-spin selling. His gravelly voice is in tune with the rattle of the noodle soup in its foil envelope that he loves to shake disdainfully in front of the microphone. But he admits—however grudgingly—that he

The Most Important Man in Your Business

You do everything possible to be sure that your product is designed and manufactured to please your customer.

The same care should be given your selection of a shipping container No matter how well your product is made — if it doesn't reach your customer in good condition — all previous effort is wasted.

For years, Gaylord boxes have been protecting the products of many of the country's leading manufacturers.

GAYLORD CONTAINER CORPORATION, General Offices: **ST. LOUIS**

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle
Indianapolis • Houston • Los Angeles • Oakland • Minneapolis • Columbus • Fort Worth
Detroit • Miami • Tampa • Cincinnati • Dallas • Des Moines • Oklahoma City • St. Louis
Greenville • Portland • San Antonio • Memphis • Kansas City • Bogalusa • Milwaukee
Chattanooga • Weslaco • New Haven • Appleton • Hickory • Sumter • Greensboro
Jackson • Omaha • Mobile • Philadelphia • Little Rock • Charlotte • Cleveland

Gaylord Boxes

CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES

uses the soup and likes it, and he obviously enjoys the cup of tea that he drinks while relaxing with a talent scout in front of the camera and microphone. His manner is one of apology to the audience for having to inflict a commercial upon them; this wins confidence and apparently makes a single Godfrey word of praise worth a thousand spoken in the dulcet tones of the usual commercial announcer.

The "Talent Scouts" program originates in a Columbia Broadcasting System Studio on New York's Great White Way. The studio seats more than a thousand persons and crowds line up hours ahead of show time. Television cameras dot the audience and a battery of lights flood the stage. The Lipton display packages in front of Godfrey are Lipton in design, but the bright Lipton colors have been replaced by black, grayed white and tones of gray to avoid the strange tricks contrast causes in television.

Such showmanship has characterized Lipton's throughout its history, and is a factor not to be overlooked in any analysis of its package success.

CREDITS (*current packages produced by Hoboken plant*): **Tea bag machines**—*Pneumatic Scale Corp., Ltd., Quincy, Mass.* **Wrapping and heat-sealing machines**—*Package Machinery Co. East Longmeadow, Mass.* **Shipping cases**—*Container Corp. of America, Chicago, Ill.; Grand-City Container Corp., No. Bergen, N. J., and National Container Corp., Long Island City, N. Y.* **Case-sealers**—*A.B.C. Packaging Machine Corp., Quincy, Ill. and J. L. Ferguson Co., Joliet, Ill.* **Tea-Bag paper**—*Aldine Paper Co., New York, and Chas. F. Hubbs & Co., New York.* **Cartons**—*Alford Cartons, Ridgefield Park, N. J., Federal Carton Corp., No. Bergen, N. J.; W. W. Fitzhugh, Inc., Brooklyn, N. Y.; Universal Folding Box Co. Inc., Hoboken, N. J. and Worcester Paper Box Corp., Medford, Mass.* **Cellophane**—*E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.* **Tag board**—*Holyoke Card & Paper Co., Springfield, Mass.* **Tag printing presses**—*Champlain Co. Inc., Bloomfield, N. J.* **Ink used in printing tags**—*Gotham Ink & Color Co., Long Island City, N. Y.; In-Tag Div. of Interchemical Corp., New York; Sinclair & Valentine Co., New York.* **Cord**—*The American Thread Co., New York; Belding-Hemingway-Corticelli, New York; Dean & Sherk Co., Inc., Lawrenceburg, Ky., and Premier Thread Co., Pawtucket, R. I.* **Staple wire**—*Geo. W. Prentiss & Co., Holyoke, Mass.* **Glassine bags**—*Beacon Paper Bag Co., Hackensack, N. J.; Continental Bag Specialties Corp., Clifton, N. J.; and Newark Paraffine & Parchment Paper Co., Newark, N. J.*

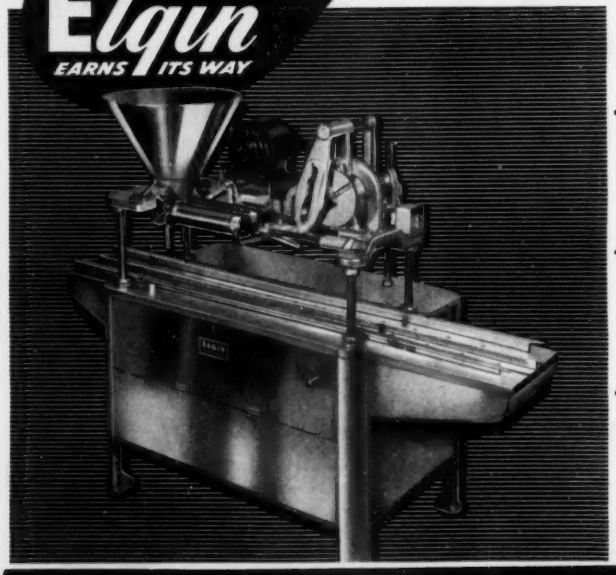
Display survey

More than 70% of the retail display material designed for independent and local grocery chain stores is wasted, according to a study by *Progressive Grocer*. Reasons behind this waste, it was found, are: (1) dealers receive more than they can possibly use; (2) displays do not always fit in with the dealers' plans; (3) dealer hasn't time to put up the material; (3) lack of stock to build displays; (3) material is difficult to use; (6) material interferes with movement of merchandise; (7) material doesn't do a good selling job.

Dealers are said to favor material measuring 12 by 14 in., made of stiff paper or paperboard. About 85% of all displays are put up by dealers and only 15% by salesmen. About 44% of the dealers plan displays one week ahead, 32% from 10 to 14 days ahead. Special store promotions are planned from three to six weeks ahead.

Substantial profit margin is not the only reason why retailers will give a product display. They will also favor a good impulse item, a new product, a related sale, a tie-in with effective consumer advertising and a fast turn-over product, the survey revealed.

Elgin
EARNS ITS WAY



TWIN 2 VALVE FILLER

THRIFT—Economy-wise production men choose Elgin Machines for their lower initial cost, minimum maintenance and operating expense.

VERSATILITY—Widely utilized by large and small plants because of their quick, simple changeover to accommodate a broad range of products and container sizes.

DEPENDABILITY—Long years of trouble-free, continuous production distinguish the Elgin equipment now serving leading packers in the food, paint, cosmetic, oil and various other industries.

IDEAL FOR GLASS OR TIN

Extensively used to fill mustard, peanut butter, relish, jams, jellies, mayonnaise, soups, creams, ointments, waxes, animal foods, horseradish, roofing cement and similar products.

ELGIN MANUFACTURING COMPANY • 200 BROOK STREET • ELGIN, ILLINOIS

EVENFLO engraved rolls

TWO COLOR PAMARCO ANILINE PRESS USING EVENFLO INKING ROLLS FOR PERFECT INKING

METER THE INK FOR BEST RESULTS IN ANILINE PRINTING

—ELIMINATES TIME-CONSUMING ADJUSTMENTS,

poor quality runs and rejects due to faulty inking!

Save paper stock, man hours and ink with Evenflo Rolls that feed ink in the correct amount without the necessity of constantly making adjustments. Evenflo Engraved Rolls meter the ink in the exact quantity required for finest presswork, continuously and automatically. No valuable press time is lost and operators can concentrate on other phases of production. Evenflo can save you money on every press run. Check the facts, today! Just call or write Pamarco for full particulars.

IF IT FLOWS — EVENFLO CAN APPLY IT BETTER!

Anything that flows — color, plastics, adhesives — can be coated with Evenflo, automatically and in consistent quantities. In many cases, Evenflo is the one practical solution. For example — in rotogravure coating where inks attack rubber rolls, Evenflo Rolls are impervious to attack, produce uniform coverage and offer greater all-round efficiency. Find out how precision engraved Evenflo Rolls can better your coating process. Consult a Pamarco sales engineer, now!

RECOMMENDED FOR APPLYING LACQUERS, GLUE, PLASTICS, ADHESIVES, WAXES AND HOT MELTS

Write for Information on the Rotogravure Proofer

PAMARCO

ANILINE PRINTING PRESSES
EVENFLO ENGRAVED ROLLERS
PAPER CONVERTING MACHINERY
NO-FLEX PLATE ROLLS

PAPER MACHINERY & RESEARCH • INC

1014 OAK STREET • ROSELLE NEW JERSEY

get on the BANDWAGON!

ENJOY THE ECONOMY and LUXURIOUS EFFECTS of

REET*

2 and 2½ GAUGE CALENDERED VINYL FILM

If it's REET it's right!*

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Stratford, Conn. West Haven, Conn.

ROSS & ROBERTS SALES CO., INC.

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indivisualized labeling

For all seasons throughout the packaging year. Call CAMEO today for labeling that is both informative and distinctive.

Labels and Seals
multi-color
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gold & silver foil
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Distinctive Tags
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CAMEO
DIE AND LABEL COMPANY
designers and craftsmen
156 WEST 14th STREET
NEW YORK 11, N. Y.
OR 5-0228

Measuring humidity—

(Article continued from page 130)

William C. Bauer (Department of Food Technology, Massachusetts Institute of Technology) for his helpful comments from the viewpoint of the chemical engineer.

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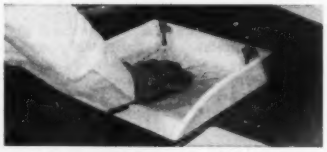
PI technical groups

A luncheon meeting of all the Packaging Institute's Technical Committees will be held Thursday, April 19, Ritz-Carlton, Atlantic City, 12:30. Visitors are welcome. Tickets ($3.50) may be obtained from the Institute.

The new "ROL-A-SEAL" heat seals "Pliofilm" Quickly • Correctly Securely

Here is the answer to sealing "Pliofilm" easily and positively with the all new "Roll-A-Seal" Hand sealing iron. No longer is it necessary to be bothered with patting, sticking, tearing and burning your "Pliofilm" sheets. With a "Rol-A-Seal" all you do is roll the "Pliofilm" around the item to be wrapped. Your packaging operation is completed in a "jiffy." The "Rol-A-Seal" Iron is especially suited for hand sealing irregular shaped packages.

Equipped with an adjustable thermostat for sealing various gauges of "Pliofilm", the "Rol-A-Seal" is ready to plug in any convenient outlet and roll in extra profits for you. Price $9.60, F.O.B. Cleveland.



"JUST ONE" SHEET DISPENSER

Saves "Pliofilm," Time, and Money

Eliminate the annoyance and waste of picking up adhering sheets of film. With the "Grab-One" Dispenser it's easy to slide ONE sheet at a time from a pile of film—fast. Needle points hold back remaining stock—no slip sheets necessary. Saves its low cost in a few hours of packaging. Set of four trays handles sheets from 8" to 18" wide.

CLEVELAND LATHE & MACHINE COMPANY
679 Broadway • Cleveland 15, Ohio
New York Office:
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Biggest Show ever

The 20th National Packaging Exposition, to be held April 17–20 at the Auditorium in Atlantic City, will be at least 25% larger than last year's record-breaking show, the American Management Assn., sponsor of the event, has revealed. At the same time, the association announced that plans were well under way for its annual national Conference on Packaging, Packing and Shipping, which will be held at the Auditorium during the first two and a half days of the show.

Arrangements for through-car sleeper service to Atlantic City from a half-dozen Midwest and Southern points are still being worked on. There has not yet been time to analyze the post-card replies to an A.M.A. questionnaire published in MODERN PACKAGING last month, seeking to establish the need for such service, but the response is said to be excellent. Postcards are still coming in to A.M.A. headquarters.

Fifteen per cent more exhibit space than the total of all the space in the record 1950 show had been contracted by Jan. 15, James O. Rice, association secretary, reported, and number of exhibitors signed–240 at last count–is already the highest in history.

Conference sessions will be held from 9:30 to 12 and from 2 to 4:30 on April 17 and 18, and from 9:30 to 12 on April 19. Featured will be a panel session at which representatives of the Army, the Navy and the Air Force will discuss Government specifications for packaging and answer questions from the floor. Reports on new technical advances in packaging and on the probable effect of Government demands on the availability of the various types of packaging materials will be given also. In addition, representatives of leading companies will present case histories of their packaging problems.

All major hotels in Atlantic City have pledged accommodations for the period of the Exposition, Mr. Rice said, and A.M.A. has established a housing bureau to assist in making reservations. Inquiries should be addressed to the Housing Bureau, A.M.A. National Packaging Exposition, 16 Central Pier, Atlantic City.

The Packaging Machinery Mfrs. Institute will have its headquarters at the Hotel Dennis and has scheduled an informal get-together on Sunday evening, April 15, the semi-annual business meeting all-day Monday, April 16, and a dinner that evening.

The Packaging Institute will have a luncheon Thursday, April 19, at the Ritz-Carlton, followed by meetings of its technical committees.

Excess tube capacity

Users of collapsible tubes will be glad to know that the collapsible-tube industry has a capacity 19% above its 1950 peak production of 6,400,000 gross. On an overtime schedule, capacity could be stretched 97% above the 1950 figure, according to L. B. Platt, secretary of the Collapsible Tube Mfrs. Assn. These estimates refer, of course, only to production facilities; material supply is another question. Department of Commerce figures used in the chart on p. 75 of our January issue, in lieu of the industry figures which were not then available, indicated that 1950 production represented capacity.

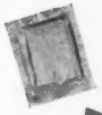
"Is it too late, Doctor?"

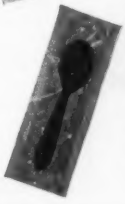
It's *not* too late for Americans who go to their doctors at the *first sign* of any one of cancer's 7 danger signals: (1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits.

Guard yourself against cancer. Phone the nearest office of the American Cancer Society or simply write to "Cancer."

American Cancer Society

·····WRAP-ADE'S GONE MILITARY!·····





Automatic Candy Pop WRAPPING MACHINE Can be converted to UNIT PACKAGER For High Speed MILITARY PACKAGING JOBS

COMPARE THESE EXCLUSIVE WRAP-ADE FEATURES:

- Changes on feeding mechanisms convert machine to Unit Packager. Completely heat seals such small items as nuts and bolts, spoons, hard candies, etc.
- Uses 50 per cent less Cellophane.
- Simple in construction and operation.
- SPEED — 100 Pops per minute, One Operator. 150 Pops per minute, Two Operators.

Write today for full information on this and other WRAP-ADE Packaging Machinery.

wrap-ade

MACHINE CO., INC.

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PHONE—BELLEVILLE 2-6150-1

More cellophane on the way

Good news for packagers is to be found in the announcement by Olin Industries, Inc., that its cellophane plant now being built at Pisgah Forest, N. C., is scheduled to be in full operation during the late summer, probably in September.

An estimated 33 million pounds of annual cellophane capacity will then be added to the current annual industry production rate of about 280 million pounds. Only two other companies are manufacturing cellophane in the United States at this time.

The announcement made by Olin indicates that the new plant's production is getting under way sooner than was expected in some quarters a few months ago.

Increased production of cellophane has long been awaited, for it is news to no one that supplies have become increasingly tight in recent months. In fact, there has been a shortage ever since the period beginning with the advent World War II.

Meanwhile, increased use of cellophane, which is one of the packaging industry's most important materials, has mounted steadily, particularly in the packaging of fresh produce, meats and bakery goods.

Olin's entrance into the cellophane field was initiated in November, 1949, when E. I. du Pont de Nemours licensed Olin Industries to manufacture the product.

The new Olin cellophane plant will employ eight machines and will consist of one main 300- by 900-ft. building, with eight smaller outlying units for auxiliary operations and storage.

Parts of the operating sections will be air-conditioned, providing for strict temperature and humidity controls required in certain phases of cellophane manufacture. Ground was broken for the plant April 1, 1950, and construction has progressed rapidly. DuPont designed and is building the plant, furnishing full technical information and know-how, including methods for assuring latest improvements in equipment and product.

The manufacture of cellophane is a logical field of expansion for Olin Industries. The firm has had extensive related experience in the field, for cellulose is the basic material for both cellophane and smokeless powder. The latter is loaded into sporting ammunition made by Western Cartridge Co. and the Winchester Repeating Arms Co., both divisions of Olin Industries.

Rexall—

(*Article continued from page 120*)

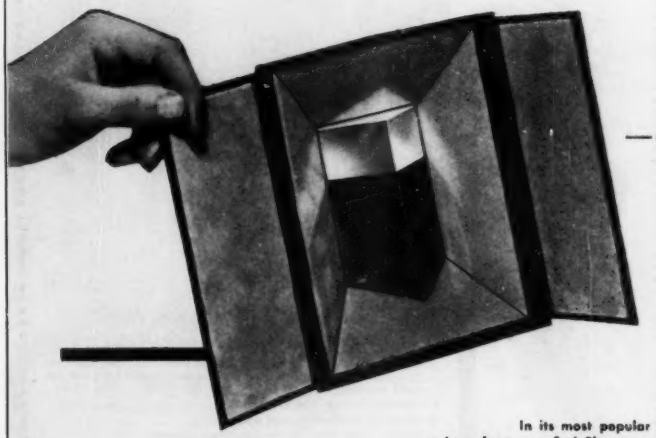
ment and with sufficient color and shopper interest to attract attention.

Rexall is extremely conscious of the part packaging has played in making the "Rexall" name a household word and all package planning is directed toward a continuing study to maintain that memorable position and to design packaging which is in keeping with standards of quality and price.

CREDITS: *Bottles, Owens-Illinois Glass Co., Toledo, Ohio, and Carr-Lowrey Glass Co., Baltimore, Md. Closures, Owens-Illinois and Formold Plastics, Inc., Chicago, Ill. Cara Nome Make-Up Stick and Lavender Shaving Bowl molded by The Bolta Co., Lawrence, Mass., using Hercules cellulose acetate for the make-up stick and Dow polystyrene for the bowl. Cans, Liberty Can & Sign Co., Lancaster, Pa. Unit packages, Ivers-Lee Co., Newark, N. J., and Strong Cobb & Co., Cleveland, Ohio. Collapsible tubes, The Sheffield Tube Corp., New London, Conn. Lacquered cartons, F. N. Burt Co., Buffalo, N. Y.*

— Packaging's Finest Velour Papers are Processed with

CLAREMONT
Flock
—the Plush that Sells!



Perfume package, illustrated, was designed by Paragon Box Corp., Brooklyn, N. Y. Mounted side panels and recessed shadow frames are formed of boxboard surfaced with the glamour appeal and velvet-like luxury of richly hued Claremont Rayon Flock.

In its most popular end-use form, you find Claremont Flock surfaced to papers and boxboards. To achieve the various, arresting effects required by the paper industry, Claremont furnishes this Flock to paper processors under three classifications—cotton, rayon, wool—and in a rainbow scope of colors ranging from brilliant hues to pastel shades. Packaging interests are invited to contact Claremont for color cards, samples and complete details.

CLAREMONT
WASTE MFG. CO.
CLAREMONT, N. H.

FOR BETTER PACKAGING!

PARTITIONS

THAT PROTECT AND SAFEGUARD YOUR PRODUCTS

•

IMMEDIATE ATTENTION
Given to Requests for Estimates

Prompt Deliveries Guaranteed

Reasonable Prices Assured

WRITE, PHONE, WIRE for QUOTATIONS on YOUR REQUIREMENTS

Manufacturers of Paper Board Partitions

PETER PARTITION CORP.

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Save time . . . money . . . labor . . . with PACKOMATIC'S wide variety of modern packaging equipment.

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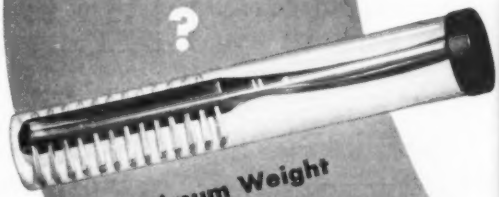

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Ceco Auto. Carton Closing Machine.
Standard Knapp 492 Carton Sealer.
Pneumatic Scale Auto. Tite-Wrapper.
Hayssen 3-7, Package FA and DF, Scandia Model SUS & SFC Auto. Cellophane Wrappers. This Is Only a Partial List. Tell Us Your Requirements. Union Standard Equipment Company, 310-322 Lafayette Street, New York 12, N. Y.

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HELP WANTED

WANTED: Efficient Production man familiar with specifications J.A.N.B. 121 and J.A.N.B. 131 for ammunition wrap-scrim polyethylene for vinyl, also wanted Supervisor familiar with these qualifications. New York Metropolitan Area Box 148, Modern Packaging.

OPERATOR for paper laminating machine. Must be exp. Leading midwest paper converting house. Grand opp. and good starting wage for right man. Laminating machine has 84 inch web. Job ready soon. Permanent midwest location. This adv. is known by our personnel. Write fully to Box 154, Modern Packaging.

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DIVISIONAL SALES MANAGER with over twenty years experience available after February 1, now directing sales all types flexible packaging, excellent sales promotion background in packaging as well as paper specialties. Write Box 149, Modern Packaging.

SALES EXECUTIVE. Competent, progressive young man offers the intelligent representation needed in today's market. Three years management work. Five years well rounded selling experience; package designing and trouble shooting. College degree, graduate work in marketing, administration. 31 years old, married. Now employed in East, will relocate. Box 150, Modern Packaging.

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MECHANICAL ENGINEER, exceptional experience. Design, building, and use of converting and packaging machinery. Latest work, heat seal bags, laminating, automatic packaging machines. Experienced paper bag, printing, and food packaging fields. Can furnish promptly, high-speed heat seal bag machines. Prefer work in production management where knowledge of electrical, mechanical plant maintenance is useful. Eastern location preferred, others considered, free to travel. Box 152, Modern Packaging.

CELLOPHANE SUPERINTENDENT—One with 18 years experience in cellophane printing. Aniline, Rotogravure, Letterpress. Handles all incoming orders, schedules presses, planning, schedules work in all departments. Contacts with customers. Orders stock, inks, plates. Would like to be connected with progressive organization. Presently employed. 35 years of age. Box 153, Modern Packaging.

MISCELLANEOUS

WANTED: Polyethylene bags, Cellophane bags, Pliofilm bags. Can use variety of sizes in large quantities. Write to Box 145, Modern Packaging.

3,000,000 sheets MSFT 300, 11⅜" x 14¼". Specially lacquered for freezings. High quality, good condition. For sale from stock in Norway, immediate delivery. Write Modern Packaging, Box 155.

FOR SALE: Polyethylene Coated Paper and Polyethylene Bags. Send inquiries to Box 146, Modern Packaging.

WANTED: Plastic scrap and rejects in any form. Cellulose Acetate, Butyrate, Polystyrene, Vinyl Polyethylene, etc. We pay top prices for clear, colored and printed scrap in any quantity. Box 781, Modern Packaging.

FOR SALE: DESICCITE approx 240 drums, 1½ lb. bags. Approx. 232 drums, 7½ lb. bags. Approx. 159 drums, 12 oz. bags. PLASTIC FILM clear & mat mashed with glassine paper (Dura-Seal), Approx. 1200 rolls, 20 yards x 24 inches. For details write Box MP 1593, 221 W. 41 St., N. Y. 18.

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PACKAGING DESIGN—that made editorial news in leading consumer, trade publications: "Modern Packaging": March 1950, page 109. August 1950, page 68-72(162). Experience most fields, Set-up, Folding Boxes, Labels. Complete service from idea to finished art, proofs. Free lance: "Yorktown", "Arden", "Click", (Candies). "Gregor" (Chocolates). "Mem" (Cosmetics). "Merten" (Yarns). Representative wanted. Alan Berger, 67 Irving Place, New York 3, ALgonquin 4-5902.

WANTED: 1-Model A and 1-Model B Trans-wrap Machines; 1-S & S G-1 Powder Filler; Potdevin Grocery Bag Machines, ½# to 35#; 1-Gluer & Compression unit to handle 24" L x 14" W x 16" H Cartons. Box 143, Modern Packaging.

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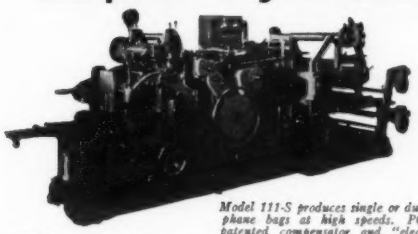
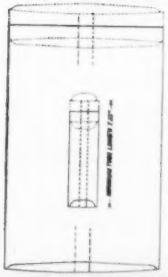
POTDEVIN

Cellophane Bag Machinery



Model 111-S produces single or duplex cellophane bags at high speeds. POTDEVIN patented compensator and "electric eye" controls register of pre-printed cellophane.



Models include flat-and-square and satchel-bottom bag machines for all popular sizes. The lip on POTDEVIN made bags makes them especially adaptable to operation on automatic filling machines. Method of cut-off prevents "fusing," side splitting or corner splitting. Cellophane aniline presses also available.

Consult our engineers on any problem. No obligation. Literature on request.

POTDEVIN MACHINE CO.
1244 38th Street, Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

POTDEVIN

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Thousands upon thousands of products go across EXACT WEIGHT Scales today. Why? The facts are that every weighing unit we build fits the operation as to type of product . . . planned production line layout . . . weight capacity of the product handled . . . tolerance, over and underweight . . . speed of operation, whether the work is done by hand, semi-automatic or fully automatic weighing . . . working conditions under which the product is handled, such as wet or dry packaging. All of this has given us countless experiences in many industries and with many, many products. These experiences go back into every new weighing problem as it arises. The result has been that old users buy this sound equipment again and again . . . new users are added daily. Both have found that EXACT WEIGHT Scales generally do their particular task faster, with less waste and at less cost than any other like equipment. Write us about your handling problem.

EXACT WEIGHT SCALES

Industrial Precision

THE EXACT WEIGHT SCALE COMPANY

914 W. Fifth Ave., Columbus 8, Ohio
2920 Bloor St., West, Toronto 18, Canada

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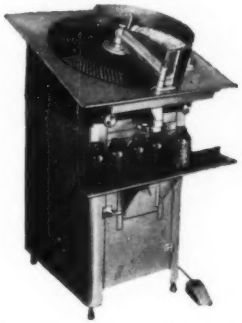
Modern packaging

Published by Modern Packaging Corp.
122 East 42nd Street, New York 17, N. Y.

A BRESKIN Publication

PerfeKtum TAB-COUNT

Model T-400



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VERSATILE . . . the "Oliver" wraps and labels every package *right!*

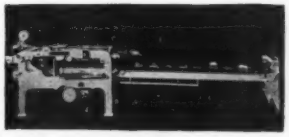
• The "Oliver" can be quickly adjusted with ease from one package to another. It wraps every package *right* — correct wrapper tension, neat folds, strong seals, speeds up to 50 a minute.

• The operator can make a complete change for package size in a minute or two. Adjust wraper length while machine is running. Switch from endfold to underfold at the flick of a finger. You can change the rolls of labels in a jiffy. This quick adjustability means *continuous production!*

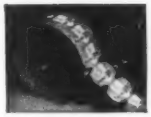
• That explains why the "Oliver" *successfully* packages so many products: baked goods, paper specialties, textile items, boxed candies and cut flowers, fresh produce and meats, etc.

• Each of the 7 different "Oliver" models handles packages in a wide range of sizes. Has automatic cardboard folder and feeder. Automatic infeed conveyors 6 to 15 feet long. Electric eye register for printed wrappers, and many other time-saving features.

• Write for details . . . and *let us tell you where you can see an "Oliver" Wrapping Machine in operation.*



"OLIVER" finest quality ROLL-TYPE LABELS



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A colorful diecut label from a continuous roll is heat-sealed to wrapper by Labeler. If desired, you can imprint "blank" label with essential information before it is applied. Items of imprint changeable in a few seconds.

Investigate!

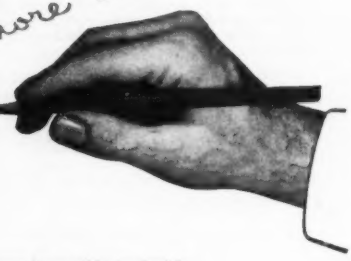
"Oliver" Wrapping Machine

with Automatic Roll-Type Labeling System

OLIVER MACHINERY COMPANY · GRAND RAPIDS 2, MICH.

Package for "Prismacolor Art Set" fabricated of Vuepak for Eagle Pencil Co., New York by Samuel Barnett Co., Philadelphia.

Write your own ticket to more sales... with Vuepak



It's no secret that many manufacturers have been able to double . . . to triple their sales (and more) by packaging their products in crystal-clear, full-view boxes made of Vuepak, Monsanto's rigid cellulose acetate packaging material.

But the sales advantage of Vuepak is even more marked when you package your product in boxes that can be used (or re-used) by the consumer. The Eagle Pencil Company, for instance, packages their colorful set of "Prismacolor" pencils in a container that shortens as the pencils are sharpened. A handy container for the consumer for months to come . . . a compelling reason to buy *more* products in boxes of Vuepak.

Your product can be packaged for more sales, too, in boxes made of Vuepak at surprisingly low cost. For Vuepak costs less than you might think; and, as your sales *increase*, unit packaging costs *decrease*.

So investigate Vuepak today for *your* package. It'll pay off in more sales . . . more profits. See your box supplier—or Write Monsanto. The coupon is for your convenience. Vuepak: Reg. U. S. Pat. Off.

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